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About the Mirage Web Manager Guide

The *VMware Mirage Web Manager Guide* provides information about how to use the Mirage Web Manager. With the Mirage Web Manager, IT help-desk personnel and the protection manager user role can assist Mirage client users to resolve endpoint problems and to protect the Mirage user devices from further potential problems.

**Intended Audience**

This information is intended for IT help desk users to resolve endpoint issues. It is also intended for the Mirage Protection Manager user to protect the Mirage client endpoints.
About the Mirage Web Manager

IT help-desk users can use the Mirage Web Manager to respond to service queries, and Protection Manager users can use the Web Manager to ensure that user devices are protected.

Access the Web Manager

You must log in each time you open the application.

The Web Manager is used by two types of Mirage user roles.

Table 1-1. Web Manager User Roles

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help Desk role</td>
<td>The Help Desk role provides information about the Mirage client user device in order to respond to service queries. Access with the Help Desk role displays the Select User and Device page by default. See Chapter 2, “Using the Web Manager as a Help Desk Role,” on page 9.</td>
</tr>
<tr>
<td>Protection Manager role</td>
<td>The Protection Manager role provides detailed information of the Mirage system. The Protection Manager can update the Mirage system to protect Mirage end-user devices. See Chapter 3, “Accessing the Web Manager with a Protection Manager Role,” on page 11.</td>
</tr>
</tbody>
</table>

The Web Manager user roles are assigned by the Mirage Management console. For more information about the Mirage users and roles, see the VMware Mirage Administrator’s Guide.

The administrator cannot change role-based access for the Web management portal by creating new roles.

Prerequisites

Ensure that you installed the Web Manager.

Procedure

1. Go to https://WebManagerServer:7443/VmwareMirage where WebManagerServer is the DNS name or IP address of the server where the Mirage Web Manager is installed.

2. Type your user name and password. Include the domain in your user name if your company requires it.

3. Click Login.

After logging in, the Select User and Device page appears for Help Desk users. Here you perform a search for devices.

The CVD Inventory page appears for Protection Manager users. Here you can view the current Mirage conditions.
What to do next

If you are a Help Desk user, you can search for a device. See “Searching for Devices,” on page 9.

If you are a Protection Manager user, continue to analyze device processes.
Using the Web Manager as a Help Desk Role

The Mirage Web Manager Help Desk provides IT help desk personnel with information to assist Mirage client users with service queries.

When you access the Web Manager Help Desk, the Select User and Device window appears, where you perform a search for a device on the . You can also search for a device from the CVD Inventory page. After the device you want is found, you can access the device information.

- **Searching for Devices** on page 9
  After logging in, the Device Search page appears, where you perform a search for devices. You can search for devices either by typing the device name or the user name for which you want to view device information. If needed, you can generate a complete list of devices by clicking the CVD Inventory tab to access the CVD Inventory page.

- **Performing Actions on a Device in the Grid View** on page 9
  You can perform actions on the selected device, such as enforce layers, set drivers, restart, suspend, synchronize, restore, or revert to a snapshot.

**Searching for Devices**

After logging in, the Device Search page appears, where you perform a search for devices. You can search for devices either by typing the device name or the user name for which you want to view device information. If needed, you can generate a complete list of devices by clicking the CVD Inventory tab to access the CVD Inventory page.

When searching for devices, you must type a character string of at least two characters that occur anywhere in the name.

After you select the device you want, you can view device history, and perform actions on the device such as enforce layers, set drivers, restart, suspend, synchronize, and revert to a snapshot.

**Performing Actions on a Device in the Grid View**

You can perform actions on the selected device, such as enforce layers, set drivers, restart, suspend, synchronize, restore, or revert to a snapshot.

You can perform role-based actions on the currently selected device. You can only perform actions on a single device at a time. For more information about actions that you can perform on devices, see the VMware Mirage Administrator’s Guide.
Accessing the Web Manager with a Protection Manager Role

The Protection Manager role enables Mirage users with this role to support and protect Mirage client end-user devices and run reports. Additionally, users with the Protection Manager role can perform Mirage management tasks that provide support to the end-user devices.

After logging on to the Web Manager with a Protection Manager role, the CVD Inventory window appears. The Protection Manager can conduct searches, perform actions, and view device and collection information from the CVD Inventory window.

You can join the VMware Mirage Customer Experience Improvement Program (CEIP) and manage the CEIP settings from the Web Manager. When you join, the CEIP tool collects technical data from the Mirage database and log files, and sends the data to VMware on a daily basis. Before the data is sent to VMware, it is made anonymous and encrypted in your systems or servers.

- **Using the Web Manager Search Function** on page 11
  You can perform a search of the Mirage Management server from the Mirage Web Manager.

- **Working with Endpoints** on page 12
  After you install the Mirage client, the Mirage Management server, and the Mirage server, you can perform certain actions on endpoints.

- **Working with Upload Policies** on page 14
  An upload policy determines which files and directories to upload from the user endpoint to the CVD in the data center.

- **Working with CVD Collections** on page 17
  You can group in a collection folder CVDs that share a logical relation to other CVDs. You can use the collections to update their policies, set drivers, or perform an action on the device such as restarting the device or synchronizing the device with the Mirage server.

- **Managing Collection Devices** on page 24
  On the Collections tab of the Mirage Web Manager, you can manage the devices that are assigned to the collection or to a CVD in a collection.

- **Working with Storage Volumes** on page 24
  Mirage provides multiple storage volume support to help manage volume congestion.

**Using the Web Manager Search Function**

You can perform a search of the Mirage Management server from the Mirage Web Manager.

You can search for CVDs, pending devices, policies, collections, volumes, reports, or all of these elements.
When a search result is displayed, you can perform various actions, such as centralizing a pending device, performing hardware migration, and other Protection Manager tasks that are available on the Mirage toolbar.

For more information on Protection Manager tasks, see the *VMware Mirage Administrator’s Guide*.

**Working with Endpoints**

After you install the Mirage client, the Mirage Management server, and the Mirage server, you can perform certain actions on endpoints.

**Centralizing Endpoints**

After you install the Mirage client, you centralize the device. Centralization activates the endpoint in the Mirage Management console and synchronizes it with, or assigns it to, a CVD on the Mirage server so that you can centrally manage the device data.

When you first introduce Mirage to your organization, you must back up each device, creating a copy of it on the server, in the form of a Centralized Virtual Desktop (CVD). You can then centrally manage the device.

After you install the Mirage client, you centralize the device. Centralization activates the device in the Mirage Management console and synchronizes it with, or assigns it to, a CVD on the Mirage server so that you can centrally manage the device data.

The endpoint with the client installed appears in the Mirage Management console as Pending Assignment, and is pending activation in the system. You can also reject a device that you do not want to manage in the system.

**Migrate a CVD to a Replacement Device**

You can migrate a CVD in the Mirage Management server to a replacement device.

You can select one of the following migration options for the selected CVD and device.

<table>
<thead>
<tr>
<th>Migration Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full System Migration, including OS, applications, user data, and settings</td>
<td>The entire CVD is restored to the replacement device, including operating system, applications, and user files. Files that already exist on the replacement device are deleted or overwritten. Use this option for systems with Windows volume licenses or Windows OEM SLP licenses.</td>
</tr>
<tr>
<td>Only Migrate User Data and Settings</td>
<td>The existing operating system and applications on the replacement device are retained. Only user data and settings are migrated to the replacement device. Use this option to migrate users from Windows XP, Windows Vista, or Windows 7 machines to new Windows 7 or Windows 8.1 machines. The OS of the replacement device must be the same as, or newer than, that of the CVD.</td>
</tr>
</tbody>
</table>

User data referred to in the options pertain to files and directories listed in the upload policies User area. See “Working with Upload Policies,” on page 14.

If you migrate a CVD from a Windows XP or Windows Vista device to a replacement device running Windows 7, or a Windows 7 device to a replacement device running Windows 8.1, select **Full System Migration** or **Only Migrate User Data and Settings** because Mirage does not transfer user-installed applications from Windows XP or Windows Vista machines to a Windows 7 system.
When you migrate a CVD from Windows XP or Windows Vista to Windows 7, after the CVD has been migrated the system streams to the endpoint so that the end user can resume work without waiting for all of the user data to be downloaded.

If you select a Windows 7 endpoint to be restored to a Windows XP or a Windows Vista CVD, that Windows 7 endpoint becomes a Windows XP or Windows Vista device.

**Procedure**

1. Click **Pending Devices** on the left panel.
2. Select the required device from the search results list.
3. In the device information window, click **Hardware Migration**.
4. Select the CVD from the CVD Selection list and click **Next**.
5. Select a migration option for the selected CVD and device and click **Next**.
   - If you select **Full System Migration**, you must specify whether to assign a base layer in the next step.
   - If you select **Only Migrate User Data and Settings**, you must specify a machine name.
6. Select a base layer option.
   a. (Optional) Select **Do not use a base layer** to select a base layer later, and click **Next**.
   b. (Optional) Select **Select a base layer from list** to apply to the CVD.
      - Select one or more app layers to migrate from the Available Layers pane and click **Add Layers**.
      - Click **Next**.
7. Select the option that determines how the device is named.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep CVD Name</td>
<td>Uses the name of the CVD you selected.</td>
</tr>
<tr>
<td>Use Device Name</td>
<td>Uses the name of the device you selected.</td>
</tr>
<tr>
<td>Set New Name</td>
<td>Enables you to specify a new name.</td>
</tr>
</tbody>
</table>
8. Select a workgroup or a domain for the endpoint to be included in following the restore operation.
   a. (Optional) Type the name of the workgroup for this endpoint to join.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workgroup</td>
<td>Type the name of the workgroup for this endpoint to join.</td>
</tr>
<tr>
<td>Domain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Type the domain name or select from the drop-down menu.</td>
</tr>
<tr>
<td></td>
<td>▪ Verify that the OU is in standard open LDAP format. For example, OU=Notebooks, O=Hardware, DC=VMware, DC=com.</td>
</tr>
<tr>
<td></td>
<td>▪ Specify the username and password for the join domain account. The join domain account must meet the appropriate security privilege requirements as defined in the system general settings. The account must have access to join the domain. This is not validated.</td>
</tr>
</tbody>
</table>
9. Click **Next**.
10. Use the Validation Summary to compare the target device with the CVD.
    You cannot proceed until you resolve the blocking issues.
11. Click **Next** and click **Finish**.
Working with Upload Policies

An upload policy determines which files and directories to upload from the user endpoint to the CVD in the data center.

A pre-defined upload policy already exists in the Mirage server in the data center. Ensure that the pre-defined upload policy fits your organizational needs or define an upload policy before you activate endpoints because the activation process selects the existing upload policy for the endpoint.

A CVD is assigned only one upload policy at a time.

The administrator creates upload policies by defining which files are to be unprotected, protected, or local to the endpoint. Protected files are uploaded to the Mirage server in the data center.

To simplify the task, you identify only files and directory names or patterns that are not uploaded to the CVD. The remaining files are considered part of the CVD and are protected.

The list of files that are not protected is defined by a set of rules and exceptions.

You define two upload policy areas, which the system uses according to the relevant system flow.

Table 3-2. Upload Policy Areas

<table>
<thead>
<tr>
<th>Upload Policy Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unprotected area</td>
<td>Lists files and directories on the endpoint device that are not protected, but with a subset of exceptions defined as protected. By default, VMware Mirage protects all other files and directories.</td>
</tr>
<tr>
<td>User area</td>
<td>Lists end-user files and directories, such as document files, that are excluded from the restoration and that are kept on the endpoint devices in their current state when the Restore System Only option is used to revert a CVD. See “Restore a Device to a CVD Snapshot,” on page 22 Additionally, the user area is used to filter out information from the base and app layers. The user area cannot be downloaded or viewed by the end user.</td>
</tr>
</tbody>
</table>

The upload policy that is applied to the CVD is a combination of the following items:

- A selected built-in factory policy that VMware provides to assist the administrator with first time deployment
- Administrator modifications to that policy to address specific backup and data protection needs

The built-in factory policy is a reference for further customization and includes all the mandatory rules that the system needs to function. The administrator cannot modify the mandatory rules.

Before you use a built-in policy, evaluate it to be sure it meets backup policy and data protection needs. The built-in policies, for example, do not upload .MP3 and .AVI files to the CVD.

You can use one of the following customizable built-in upload policies, to help manage mixed Mirage and Horizon View systems:

- **Mirage default upload policy** Use on Mirage servers that manage CVDs on distributed physical devices.
- **Horizon View optimized upload policy** Use on Mirage servers that manage CVDs on virtual machines. This upload policy is provided for convenience. It is identical to the Mirage default upload policy, except that the Optimize for Horizon View check box is selected.

- **View Upload Policies** on page 15

You can view an upload policy to review its content and parameters.
Upload policies have various parameters that you can view.

Add New Upload Policies on page 16
When you add a new upload policy, the new policy is added to the respective node.

Edit Upload Policies on page 16
You can edit an upload policy in the Mirage Web Manager and distribute the revised policy.

Add or Edit Upload Policy Rules on page 16
You can add or edit a rule or a rule exception in a policy. A rule defines directories or files that are not protected, and a rule exception defines entities within the scope of the rule that are protected.

Upgrade an Upload Policy on page 17
When upgrading a policy with a new minor or major version, you can upgrade the CVDs that are assigned to the previous upload policy version.

View Upload Policies
You can view an upload policy to review its content and parameters.

Procedure
1. In the Mirage Web Manager, click the Policies tab.
2. Double-click the policy to view its content and parameters.

For more information on upload policy parameters, see “Upload Policy Parameters,” on page 15.

Upload Policy Parameters
Upload policies have various parameters that you can view.

Table 3-3. Upload Policy Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and Description</td>
<td>Name and description of the policy.</td>
</tr>
<tr>
<td>Upload change interval</td>
<td>Denotes how frequently the client attempts to synchronize with the server.</td>
</tr>
<tr>
<td></td>
<td>The default is every 60 minutes. End users can override the policy in effect</td>
</tr>
<tr>
<td></td>
<td>at an endpoint. See Suspend and Reactivate Synchronization. The Upload change</td>
</tr>
<tr>
<td></td>
<td>interval affects the frequency of automatic CVD snapshot creation. See <strong>CVD</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Snapshot Generation and Retention</strong>.</td>
</tr>
<tr>
<td>Protected volumes</td>
<td>Denotes which volumes to centralize from the endpoint to the CVD in the server.</td>
</tr>
<tr>
<td></td>
<td>All fixed volumes are protected by default. You can select to protect only the</td>
</tr>
<tr>
<td></td>
<td>system volumes and add more volumes by using the assigned drive letters.</td>
</tr>
<tr>
<td>Optimize for Horizon View</td>
<td>Check box Optimizes performance on servers that use Horizon View to manage virtual machines.</td>
</tr>
<tr>
<td>Unprotected Area tab</td>
<td>Defines the rules to unprotect files and directories.</td>
</tr>
<tr>
<td>Rules list</td>
<td>Paths that are explicitly unprotected by Mirage.</td>
</tr>
<tr>
<td>Rule Exceptions list</td>
<td>Paths that are exceptions to unprotect rules in the Rules list. Mirage protects exceptions to unprotect rules.</td>
</tr>
<tr>
<td>User Area tab</td>
<td>Defines the rules to unprotect files and directories defined as user files.</td>
</tr>
<tr>
<td></td>
<td>These rules are used instead of Unprotected Area rules when certain system flows specifically refer to user files.</td>
</tr>
<tr>
<td></td>
<td>The tab contains <strong>Rules</strong> and <strong>Rule Exception</strong> areas, used in the same way as in the Unprotected Area tab.</td>
</tr>
<tr>
<td>Advanced Options tab</td>
<td>Provides advanced policy options for optimization of the CVD policy.</td>
</tr>
</tbody>
</table>
### Table 3-3. Upload Policy Parameters (Continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Show Factory Rules check box</td>
<td>Shows the Factory upload policy settings in the rules list, the Mirage mandatory settings that the administrator cannot change. The factory rules are dimmed in the rules list.</td>
</tr>
<tr>
<td>Export button</td>
<td>Exports policy rules to an XML file for editing and backup. Mirage factory rules are not exported, even if they appear in the policy window.</td>
</tr>
<tr>
<td>Import button</td>
<td>Imports policy rules from an XML file.</td>
</tr>
</tbody>
</table>

### Add New Upload Policies

When you add a new upload policy, the new policy is added to the respective node.

**Procedure**

1. In the Mirage Web Manager, click the Policies tab, and click **Add**.
2. Type the policy name, description, and policy data.
3. Click **Save** to save the policy.

### Edit Upload Policies

You can edit an upload policy in the Mirage Web Manager and distribute the revised policy.

You can also use an external editor to edit the policy. You export the policy file, edit it, and import it back to the Mirage Web Manager.

The new policy takes effect at the next update interval in which the client queries the server. The default is one hour and requires a full disk scan.

Before you distribute the revised policy to a group of CVDs, it is good practice to test it on a sample desktop.

**Procedure**

1. In the Mirage Web Manager, click the Policies tab, and select an upload policy.
2. Click **Edit**.
3. Edit the policy data and click **Save**.
4. Indicate the scope of the update.
   - Select a minor version, for example, 1.1, or a major version, for example, 2.0, and click **OK**.

   The new policy is added with the new version number.

### Add or Edit Upload Policy Rules

You can add or edit a rule or a rule exception in a policy. A rule defines directories or files that are not protected, and a rule exception defines entities within the scope of the rule that are protected.

When you formulate policy rules, you can use macros to assist specification of various Mirage directory paths addressed by the rules. For example, macros let Mirage and the administrator handle cases when some endpoints have Windows in `c:\windows` and some in `d:\windows`. Using macros and environment variables makes sure Mirage backups important files regardless of their specific location. For information about the macro specifications, see the *VMware Mirage Administrator’s Guide*.

**Procedure**

1. In the Mirage Web Manager, click the Policies tab and select the required upload policy.
2. Click **Edit**.

3. Click **Add** next to the required Rule or Rule Exception area.

4. Type the directory path or select it from the drop-down menu.

   **IMPORTANT** Do not type a backslash (\) at the end of the path.

5. Select a filter for this directory or a pattern for matching files under this directory.

   For example, to add a rule to not protect Windows search index files for all the users on the desktop, add the following rule:

   `%anyuserprofile%\Application Data\Microsoft\Search\*`

6. Click **Save & Close**.

### Upgrade an Upload Policy

When upgrading a policy with a new minor or major version, you can upgrade the CVDs that are assigned to the previous upload policy version.

**Prerequisites**

An upload policy must be updated with new policy information or rules and have a new minor or major version assigned to upgrade the CVDs with the new policy version.

**Procedure**

1. In the Mirage Web Manager, click the **Policies** tab and select the policy to be upgraded
2. Click **Upgrade**.
3. At the confirmation prompt, click **OK**.

The CVDs assigned to the previous version of the upload policy are moved to the new version.

### Working with CVD Collections

You can group in a collection folder CVDs that share a logical relation to other CVDs. You can use the collections to update their policies, set drivers, or perform an action on the device such as restarting the device or synchronizing the device with the Mirage server.

For example, you can aggregate all CVDs of users in the marketing department to a folder under a collection called Marketing. Then you can perform updates on the CVDs that all the Marketing CVDs share all at once.

Mirage supports static and dynamic collections. You manually assign CVDs to a static collection, while CVD assignments to dynamic collections are calculated based on predefined filters every time an operation is applied to a collection.

A CVD can be a member of multiple collections. If different base layers or policies are applied to different collections and a CVD belongs to more than one, the last change applied takes effect.

- **Add Static Collections** on page 18
  
  You can add a static collection folder to the **Collections** node, to which you can add CVDs manually.

- **Add CVDs to Static Collections** on page 18
  
  You can move CVDs to existing collection folders to organize them in logical groupings.

- **Add Dynamic Collections** on page 18
  
  You can add a dynamic collection. CVD assignments to the dynamic collection are calculated based on predefined filters every time an operation is applied to the collection. You can define an unlimited number of rules for a dynamic collection.
Add Dynamic Collections by Using Active Directory on page 19
You can use Active Directory (AD) to add a dynamic CVD collection. You can add CVDs to the collection by Active Directory group, organizational unit, or domain. You can create a filter for multiple Active Directory elements, for example, filter CVDs whose users belong to the Human Resources AD group or to the Marketing AD group.

Edit Collection on page 19
You can use the Edit Collection action to modify the collection properties, add or remove a CVD, or manage the CVDs in the collection.

Managing CVDs in a Collection on page 19
On the Collections tab of the Mirage Web Manager, you can manage the CVDs that are assigned to the collection.

Managing CVDs on page 20
You can manage the CVD by performing tasks on the CVD.

Add Static Collections
You can add a static collection folder to the Collections node, to which you can add CVDs manually.

Procedure
1 In the Mirage Web Manager, click the Collections tab.
2 Select Create New > Static Collection.
3 Type a name and description for the collection.
4 Select the CVDs that you want to manage in the static collection.
5 Click Save.
The static collection is added to the Collections list.

Add CVDs to Static Collections
You can move CVDs to existing collection folders to organize them in logical groupings.

Procedure
1 In the Mirage Web Manager, click the Collections tab and select the collection to which you want to add the CVD.
   Do not click the collection name.
2 Click Edit.
3 Select the CVD to add to the current collection and click Save.

Add Dynamic Collections
You can add a dynamic collection. CVD assignments to the dynamic collection are calculated based on predefined filters every time an operation is applied to the collection. You can define an unlimited number of rules for a dynamic collection.

Procedure
1 In the Mirage Web Manager, click the Collections tab.
2 Select Create New > Dynamic Collection.
3 Type the name and description for this dynamic collection.
4 Select the filters to define the dynamic collection from each of the drop-down menus.

5 Click **Apply** to preview the CVDs that are filtered into the collection to ensure that your filter is accurate.
   The filtered CVDs are displayed in the list.

6 Click **Save**.

**Add Dynamic Collections by Using Active Directory**

You can use Active Directory (AD) to add a dynamic CVD collection. You can add CVDs to the collection by Active Directory group, organizational unit, or domain. You can create a filter for multiple Active Directory elements, for example, filter CVDs whose users belong to the Human Resources AD group or to the Marketing AD group.

The Active Directory is updated whenever a device is authenticated. Active Directory information might change, such as the organizational unit, if the Active Directory is updated for that user or device.

**Procedure**

1 In the Mirage Web Manager, click the **Collections** tab.

2 Select **Create New > Dynamic Collection**.

3 Type the name and description for this dynamic collection.

4 Set the filter to define the dynamic collection by Active Directory group, Active Directory organizational unit, or Active Directory domain.

5 Click **Apply** to view the CVDs filtered to the collection.
   The filtered CVDs that are defined as Active Directory appear in the list.

6 Click **Save**.

**Edit Collection**

You can use the Edit Collection action to modify the collection properties, add or remove a CVD, or manage the CVDs in the collection.

**Procedure**

1 In the Mirage Web Manager, click the **Collections** tab.

2 Select the collection you want to edit and click **Edit**.
   Do not click on the device name.

3 Click **Save** after editing the collection.

**Managing CVDs in a Collection**

On the Collections tab of the Mirage Web Manager, you can manage the CVDs that are assigned to the collection.

You can perform actions on the CVDs in a collection, such as archive, delete, assign an upload policy, set drivers, change the storage volume, and so on.

In addition to managing CVDs in the collection, you can also manage the devices for each CVD by double-clicking the CVD in the collection. For more information on managing the devices in the CVD, see "Managing CVDs," on page 20.
Managing CVDs

You can manage the CVD by performing tasks on the CVD.

You can use the search function to locate the CVD you want to manage. Alternatively, you can locate the CVD you want to manage on the Collections tab.

The actions you can perform are available on the action toolbar. For additional tasks, click the double arrow at the end of the action toolbar.

In addition to the tasks for managing CVDs in a collection, you can manage the CVD by performing the following tasks:

- Restart a Device on page 20
  You can remotely force a restart of a Mirage client device, for example, when the user does not reboot on a request from the Mirage client.

- Working with Reports for Mirage Operations on page 21
  You can generate and view reports on demand or configure regularly scheduled reports. Reports display the status of various Mirage operations.

- Enforce Layers on Endpoints on page 21
  Users and applications might make changes to files and registry settings that were provisioned through a base layer or app layer. Sometimes these changes create problems with the desktop operation. In most cases, you can resolve the problem by enforcing the layer originally assigned to the CVD.

- Endpoint Disaster Recovery on page 22
  You can restore device files to a previous CVD snapshot, or restore a device from a CVD following hard drive replacement, file corruption, or format, or when the device is replaced.

- Working with the File Portal on page 23
  End users that have a Mirage client installed can use the Mirage file portal to browse and view files in their CVD.

- Assign an Upload Policy on page 23
  An upload policy determines which files and directories to upload from the user endpoint to the CVD in the data center. You can assign an upload policy to all CVDs in the collection or to an individual CVD in a collection.

- Manage Collections on page 24
  You can add a collection to the CVD or remove a collection from a CVD.

- Move a CVD to a Different Volume on page 24
  You can move a CVD to a different storage volume, according to your disk organization requirements.

Restart a Device

You can remotely force a restart of a Mirage client device, for example, when the user does not reboot on a request from the Mirage client.

Procedure

1. In the Mirage Web Manager, select the device that you want to restart and click Restart.
2. At the confirmation prompt, click OK.

An Audit Event transaction is added to the device information list.
What to do next
After you restart a device, the end-user receives a message to restart the computer. The user can click Restart Now to restart the computer or wait for the computer to automatically restart after 10 minutes.

Working with Reports for Mirage Operations
You can generate and view reports on demand or configure regularly scheduled reports. Reports display the status of various Mirage operations.

You access, generate, edit, rename, and export reports from the Reports tab in the Mirage Web Manager.

You specify report parameters and can generate a one-time report, or you can save the report parameters as a report template.

If you save the report parameters as a template, you can generate a report from the template on demand or specify a report generation schedule, for example, every two weeks.

Centralization Progress
You generate the Centralization Progress report during the first phase of the Mirage deployment to view the progress of CVDs being centralized. The Centralization Progress report displays the centralization status of CVDs and the average time, average CVD size, and average data transfer size of completed CVDs during the specified time frame for the report.

OS Migration Process
The OS Migration Process report displays the number of CVDs that have started, are still pending, and have completed an OS migration procedure, and the number of CVDs that have started and completed a layer provisioning procedure.

Data Protection Status
You generate the Data Protection Status report to view the percentage of users' systems that are backed up.

The Data Protection Status report displays the data protection status of CVDs and lists the CVDs and users for whom an upload procedure is incomplete.

CVD Integrity Report
You generate the CVD Integrity report if a system event warns that a CVD might have inconsistencies.

The CVD Integrity report verifies that a CVD is consistent and free of corruption, and can continue to reside in the system and be used for restoration and other purposes.

You cannot save the CVD Integrity report as a template.

Enforce Layers on Endpoints
Users and applications might make changes to files and registry settings that were provisioned through a base layer or app layer. Sometimes these changes create problems with the desktop operation. In most cases, you can resolve the problem by enforcing the layer originally assigned to the CVD.

The Mirage client downloads only the relevant files and registry settings required to realign the CVD with the original layer. User profiles, documents, and installed applications that do not conflict with the layer content are preserved.

Enforcing all layers can also be set to remove user-installed applications residing in the machine area of the CVD. This ability is useful, for example, for fixing a problematic CVD in which all layer applications do not function because of overwritten or corrupted system files. Removing user applications deletes Machine Area files and registry keys that are not in the current base layer, with the exception of files defined in the user area policy.
Procedure

1. In the Mirage Web Manager, select the device for which you want to enforce layers and click Enforce Layers.
2. Select an option for the user applications, and click Next.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preserve user applications</td>
<td>The system is restored to comply with the assigned layer while preserving user data. Use this option to preserve user applications and to retain the user-installed applications on the CVD.</td>
</tr>
<tr>
<td>Remove user applications</td>
<td>The system is restored to comply with the assigned layer while removing user data. Use this option to remove user applications and user-installed applications from the CVD.</td>
</tr>
</tbody>
</table>
3. Use the validation summary to compare the target device with the CVD. This summary alerts you to any potential problems that require additional attention.
   You cannot proceed until blocking problems are resolved.
4. At the confirmation prompt, click Finish.
   An Audit Event transaction is added to the device information list.

Endpoint Disaster Recovery

You can restore device files to a previous CVD snapshot, or restore a device from a CVD following hard drive replacement, file corruption, or format, or when the device is replaced.

Mirage provides disaster recovery in two key ways:

- Restore files or the entire desktop to a previous CVD snapshot on an existing device. Files and directories are included in CVD snapshots in accordance with the upload policies currently in effect. See “Working with Upload Policies,” on page 14.
- Restore the hard drive on an existing or a replacement device:
  - Restore a CVD to the same device after a hard-drive replacement, file corruption, or format.
  - Restore the CVD to a replacement device.

When the CVD contains Encrypted File System (EFS) files, the files are recovered in their original encrypted form.

**Note** For better deduplication in the revert-to snapshot, the end user must be logged in during the restore Prefetch operation if the CVD contains EFS files.

Restore a Device to a CVD Snapshot

You can use a CVD snapshot to restore a specific file or a complete endpoint on an existing device.

Mirage automatically creates CVD snapshots at regular intervals, and preserves them based on a retention policy, making them available for restoration purposes as needed. For more information, see the VMware Mirage Administrator’s Guide.

You can use a selected CVD snapshot to restore a specific file or a complete endpoint on an existing device. The reversion can be between same operating system, for example, Windows 8.1 to Windows 8.1, or cross-operating systems, for example, Windows 8.1 to Windows 7.

Procedure

1. In the Mirage Web Manager, select the CVD that you want to restore to a CVD snapshot and click Revert To Snapshot.
2 Select the revert options.

a Select the snapshot date to which you want to revert.

b Select whether you want to only restore the system and click Next.

The **Restore System Only check box** is selected by default. Select This restores system files only, including the base layer, user-installed applications and user machine settings. The user area content is not affected and any new files in the user area are not erased.

User data in this option pertains to files and directories listed in the upload policies User area. See *Working with Upload Policies*.

The option behavior depends if the reversion you are performing is to the same OS or cross-OS.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If to the same OS, for example, Windows 8.1 to Windows 8.1:</strong></td>
<td>Clear this check box if you want to restore the entire CVD, including the User area, from the CVD snapshot. If the checkbox is cleared, any application, setting, or document in the current CVD that does not exist in the snapshot is erased from the endpoint.</td>
</tr>
<tr>
<td><strong>If to a different OS, for example, Windows 8.1 to Windows 7:</strong></td>
<td>This checkbox is not selected so the entire CVD, including the User area, is always restored from the CVD snapshot.</td>
</tr>
</tbody>
</table>

3 Use the validation summary to compare the target device with the CVD. This summary alerts you to any potential problems that require additional attention.

You cannot proceed until blocking problems are resolved.

4 Verify the snapshot details and click **Finish**.

**Working with the File Portal**

End users that have a Mirage client installed can use the Mirage file portal to browse and view files in their CVD.

In some situations, for example in an MSP environment, user devices cannot access the corporate domain. To enable users to access their files, an administrator maps a CVD that is centralized in the system to specific domain users. Users who are not on the domain can access their files through the file portal by using their domain account.

Users access these files from the data center directly, not from the endpoint, so the endpoint does not need to be accessible for file portal purposes.

To allow or block access to the file portal, select the appropriate CVD and click either **Allow File Portal** or **Block File Portal**.

**Assign an Upload Policy**

An upload policy determines which files and directories to upload from the user endpoint to the CVD in the data center. You can assign an upload policy to all CVDs in the collection or to an individual CVD in a collection.

A CVD is assigned only one upload policy at a time.

**Procedure**

1 In the Mirage Web Manager, select the device for which you want to assign an upload policy and click **Assign Upload Policy**.

2 Select a CVD policy to assign and click **OK**.

An Audit Event transaction is added to the device information list.
The new policy will only take effect after the next synchronization between the devices and the Mirage server. The newly assigned upload policy is displayed in the CVD list.

**Manage Collections**

You can add a collection to the CVD or remove a collection from a CVD.

**Procedure**

1. In the Mirage Web Manager, select the CVD that you want to manage.
2. On the toolbar, click the double arrow icon to view more options and select **Manage Collections**.
3. Select one or more available collections from the Available Collections list and click **Save**.

   An Audit Event transaction is added to the device information list.

**Move a CVD to a Different Volume**

You can move a CVD to a different storage volume, according to your disk organization requirements.

**Procedure**

1. In the Mirage Web Manager, select the CVD that you want to move to a different volume and click **Change Volume**.
2. Select a volume and click **OK**.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Automatically select a volume</strong></td>
<td>Use this option if you want the Mirage server to select the volume with the most free space. The Mirage server does not choose blocked volumes.</td>
</tr>
<tr>
<td><strong>Manually select a volume</strong></td>
<td>Use this option if you want to select the volume manually.</td>
</tr>
</tbody>
</table>

**Managing Collection Devices**

On the **Collections** tab of the Mirage Web Manager, you can manage the devices that are assigned to the collection or to a CVD in a collection.

You can perform actions such as suspend network operations, resume network operations, enforce layers, and assign an upload policy.

**Working with Storage Volumes**

Mirage provides multiple storage volume support to help manage volume congestion.

Each storage volume can contain base layers, app layers, and CVDs. CVDs are assigned to a storage volume when they are created. The storage volumes must be shared by the servers where Network-attached storage (NAS) permissions must be in place.

You can perform the following actions in the Mirage Web Manager:

- Block a volume
- Unblock a volume
- **Block Storage Volumes** on page 25
  
  You can block a storage volume to prevent it from being used when new CVDs or base layers are being created.

- **Unblock Storage Volumes** on page 25
  
  You can unblock a volume that is currently blocked. The volume can then accept new CVDs and base layers and existing data can be updated.
Block Storage Volumes

You can block a storage volume to prevent it from being used when new CVDs or base layers are being created.

Blocking a storage volume is useful when the volume reaches a volume capacity threshold or to stop populating it with new CVDs or base layers. Blocking a volume does not affect access or updates to existing CVDs and base layers on the volume.

**IMPORTANT** You cannot move a CVD or a base layer to a blocked volume. You can move a CVD or a base layer from a blocked volume.

**Procedure**

1. In the Mirage Web Manager, click the **Volumes** tab.
2. Select the required volume and click **Block**.
3. Click **OK** to confirm.

   The Volume Status column in the Volumes window shows Blocked.

Unblock Storage Volumes

You can unblock a volume that is currently blocked. The volume can then accept new CVDs and base layers and existing data can be updated.

**Procedure**

1. In the Mirage Web Manager, click the **Volumes** tab.
2. Select the required volume and click **Unblock**.
3. Click **Yes** to confirm.
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