Managing HX Controller VMs

Storage controller VMs provide critical functionality for the Cisco HXDistributed Data Platform. A storage controller VM is installed on every converged node in the storage cluster. The storage controller VMs provide a command line interface for running stcli commands on the storage cluster.

Logging into a Storage Controller VM

The HX Data Platform stcli commands are run from the storage controller VM. There is a storage controller VM on every converged node in the storage cluster. There are a few methods for logging into the controller VM.

- Use the HX Data Platform CLI web interface.
- Use the vCenter interface.
- Use an ssh command.

Step 1  Identify the storage controller VM.
a) Login to the vSphere web client and locate the controller VM of a HX Data Platform storage cluster host.
   From the vSphere Web Client Navigator, select VMs and Templates > vCenter server > datacenters > ESX Agents > Virtual Machines > controller_vm.
b) Locate a storage controller VM DNS name.
   Select VM > Summary > DNS Name.
c) Locate the storage controller VM IP address for the node.
   From the controller_vm > Summary > IP Addresses.
   If there is more than one IP Address for the VM, use the first IP Address in the list.

**Step 2** Use the HX Data Platform CLI web interface.

a) From a browser, enter the DNS Name and add /cli to the path.
   For example:
   cs002-hxctlvm.company.com/cli

b) Enter the login credentials.
   Default credentials are: username, root and password, Cisco123

**Step 3** Use the vCenter interface.

a) From the vSphere Web Client Navigator, select VMs and Templates > vCenter server > datacenter > ESX Agents > Virtual Machines > controller_vm.

b) With the controller VM selected, from the Summary tab, click Launch Remote Console.
   Since you are logged into vCenter, additional login credentials are not needed.

**Step 4** Use an ssh command.

a) Open a command shell and SSH to the storage controller VM.

   # ssh root@controller_vm_ip

b) At the prompt, enter password, Cisco123. Or alternatively, include the password with the command.

   # ssh root:password@controller_vm_ip

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**Changing Storage Controller Password**

To reset the HyperFlex storage controller password post installation, do the following.

**Step 1** Login to a storage controller VM.

**Step 2** Change the HyperFlex storage controller password.

   # stcli security password set
   This command applies the change to all the controller VMs in the storage cluster.

   **Note** Do not use the unix password command.

**Step 3** Type in the new password.

**Step 4** Press Enter.
Guidelines for HX Data Platform Login Credentials

\textit{stcli} commands prompt for login credentials.

The storage controller VM password is specified during HX Data Platform installer. After installation you can change the password through the \textit{stcli} command line. The storage controller VM username is not configurable.

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HX Data Platform Names, Passwords, and Characters

Most printable and extended ASCII characters are acceptable for use in names and passwords. Certain characters are not allowed in HX Data Platform user names, passwords, virtual machine names, storage controller VM names, and datastore names. Folders and resource pools do not have character exceptions.

However, to simplify names and passwords, consider not using these special characters, as they are frequently assigned special purposes.

amperand (&), apostrophe (‘), asterisk (*), at sign (@), back slash (/), colon (:), comma (,), dollar sign ($), exclamation (!), forward slash (/), less than sign (<), more than sign (>), percent (%), pipe (|), pound (#), question mark (?), semi-colon (;)

When entering special characters, consider the shell being used. Different shells have different sensitive characters. If you have special characters in your names or passwords, place them in a single quote, 'special@word!'

HX Storage Cluster Name
HX cluster names cannot exceed 50 characters.

Virtual Machine and Datastore Names
Most characters used to create a virtual machine name, controller VM name, or datastore name are acceptable. Escaped characters are acceptable for virtual machine, controller VM names, or datastore names.

Maximum characters—Virtual machine names can have up to 15 characters.

Excluded characters—Do not use the following character in any user virtual machine name or datastore name for which you want to enable snapshots.

• accent grave (‘)

Special characters—The following special characters are acceptable for user virtual machine or datastore names:

• amperand (&), apostrophe (‘), asterisk (*), at sign (@), back slash (/), circumflex (^), colon (:), comma (,), dollar sign ($), dot (.), double quotation ("), equals (=), exclamation (!), forward slash (/), hyphen (-), left curly brace ({), left parentheses ((), left square bracket ([), less than sign (<), more than sign (>), percent (%), pipe (|), plus sign (+), pound (#), question mark (?), right curly brace (}), right parentheses ()), right square bracket (]), semi-colon (;), tilde (~), underscore (_)
Controller VM Password Requirements

The following rules apply to controller VM root and admin user passwords.

- Minimum Length: 10
- Minimum 1 Uppercase
- Minimum 1 Lowercase
- Minimum 1 Digit
- Minimum 1 Special Character
- A maximum of 3 retry to set the new password

To change a controller VM password, always use the stcli command. Do not use another change password command, such as a Unix password command.

1. Login to the management controller VM.
2. Run the stcli command.

   stcli security password set [-h] [--user USER] [--password PASSWORD]

   The change is propagated to all the controller VMs in the HX cluster.

UCS Manager and ESX Password Format and Character Requirements

The following is a summary of format and character requirements for UCS Manager and VMware ESXi passwords. See the Cisco UCS Manager and VMware ESX documentation for additional information.

- **Characters classes**: lower case letters, upper case letters, numbers, special characters. Passwords are case sensitive.

- **Character length**: Minimum 6, maximum 80
  - Minimum 6 characters required, if characters from all four character classes.
  - Minimum 7 characters required, if characters from at least three character classes.
  - Minimum 8 characters required, if characters from only one or two character classes.

- **Start and end characters**: An upper case letter at the beginning or a number at the end of the password do not count toward the total number of characters.

Examples that meet the requirements:

- h#56Nu - 6 characters. 4 classes. No starting upper case letter. No ending number.
- h5xj7Nu - 7 characters. 3 classes. No starting upper case letter. No ending number.
- XhUwPcNu - 8 characters. 2 classes. No starting upper case letter. No ending number.
- Xh#5*Nu - 6 characters counted. 4 characters classes. Starting upper case letter. No ending number.
h#5*Nu9 - 6 characters counted. 4 characters classes. No starting upper case letter. Ending number.

- **Consecutive characters:** Maximum 2. For example, hhh###555 is not acceptable.

Through vSphere SSO policy, this value is configurable.

- **Excluded Characters:**

  UCS Manager passwords cannot contain the escape (\) character.

  ESX passwords cannot contain these characters.

  - Cannot be the username or the reverse of the username.
  
  - Cannot contain words found in the dictionary.
  
  - Cannot contain the characters escape (\), dollar sign ($), question mark (?), equal sign (=).

**vSphere 5.5 Password Exceptions**

Some characters, when processed by functions within vSphere are escaped. That is, the processing function applies an escape character prior to the special character before continuing to process the provided name.

Permitted special characters are specific to vSphere versions 5.5 or 6.0 and later. See VMware KB article, *Installing vCenter Single Sign-On 5.5 fails if the password for administrator@vsphere.local contains certain special character* (2060746), at https://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2060746.

**Excluded characters:** Do not use the following characters with vSphere 5.5.

- Non-ASCII characters. Extended ASCII characters.

- Letters with accents. For example, the accent grave, accent acute, circumflex, umlaut, tilde and cedilla (é, à, â, ã, ü, õ, ò, ë, ç, ë).

- vSphere 5.5 and SSO: ampersand (&), apostrophe (‘), back slash (\), circumflex (^), double quotation (“), exclamation (!), percent (%), semicolon (;), space ( )

VMware has vSphere SSO password policy setting options and upgrade considerations for user names. See VMware documentation for the topics: *How vCenter Single Sign-On Affects Upgrades* and *Edit the vCenter Single Sign-On Password Policy*.

- Location based exception: at the beginning of a name, do not use an at sign (@), parenthesis ( )

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**Powering On or Off Storage Controller VMs**

You can power on or off VMs through the vSphere Web Client or through the ESX command line. This also applies to storage controller VMs, though generally the storage cluster operations handle powering on or off the storage controller VMs.

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**Step 1**  
Using the *vSphere Web Client* to power on or off a VM.

a) Login to the vSphere Web Client.

b) Locate the VM.
From the Navigator select, **vCenter Inventory Lists > Virtual Machines > vm**.

Storage controller VMs, have the prefix, `stCtlVM`.

c) From the right-click or Actions menu select, **Power > Power On or Power > Power Off**.

**Step 2** Using the ESX command line to power on or off a VM.

a) Login to the command line for the ESX host for a VM.

b) Locate the VM `vmid`.

   This is specific to the ESX host. Run the command.

   ```shell
   # vim-cmd vmsvc/getallvms
   ```

Sample response:

```
Vmid  Name              File                     Guest OS    Version    Annotation
1     stCtlVM-<vm_number>  [SpringpathDS-<vm_number>] stCtlVM-<vm_number>/stCtlVM-<vm_number>.vmx ubuntu64Guest vmx-11
3     Cisco HyperFlex Installer [test] Cisco HyperFlex Installer/Cisco HyperFlex Installer.vmx ubuntu64Guest vmx-09
```

Retrieved runtime info

```
Powered off
```

Storage controller VMs, have the prefix, `stCtlVM`.

c) To power on a VM. Run the command specifying the VM to power on.

   ```shell
   # vim-cmd vmsvc/power.on 1
   ```

d) To power off a VM. Run the command specifying the VM to power off.

   ```shell
   # vim-cmd vmsvc/power.off 1
   ```