Deploy HyperFlex Remote Plugin - Deployment Guide

Contents

Introduction

This document describes how to deploy the Cisco HyperFlex Remote Plugin Appliance.

Pre-requisites

Requirements

Cisco recommends that you have knowledge in these topics:

- HyperFlex
- vCenter
- Networking
- DNS

Components used

The information in this document is based on these software and hardware versions:

- HyperFlex Connect 5.0.2d
- Hyperflex Standard Cluster
- VMware vCenter, 8.0.2.00100

- VMware ESXi, 7.0.3, 21930508
- Cisco HyperFlex Remote Plugin Appliance 3.0.0.1173
- WinSCP 6.1.1 (Build 13736)

The procedure performed in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

The vSphere Client Remote vCenter plug-in architecture is designed to integrate plug-in functionality into the vSphere Client without the need to run inside vCenter Server. This provides plug-in isolation and enables scale-out of plug-ins that operate in large vSphere environments.

The main difference between the local and remote plug-in is that local plugin stores all its files on the vCenter itself, whereas remote plug-in stores the files in an appliance.

Starting with vSphere 8.0.0, the only architecture supported in vSphere releases is remote plugin.

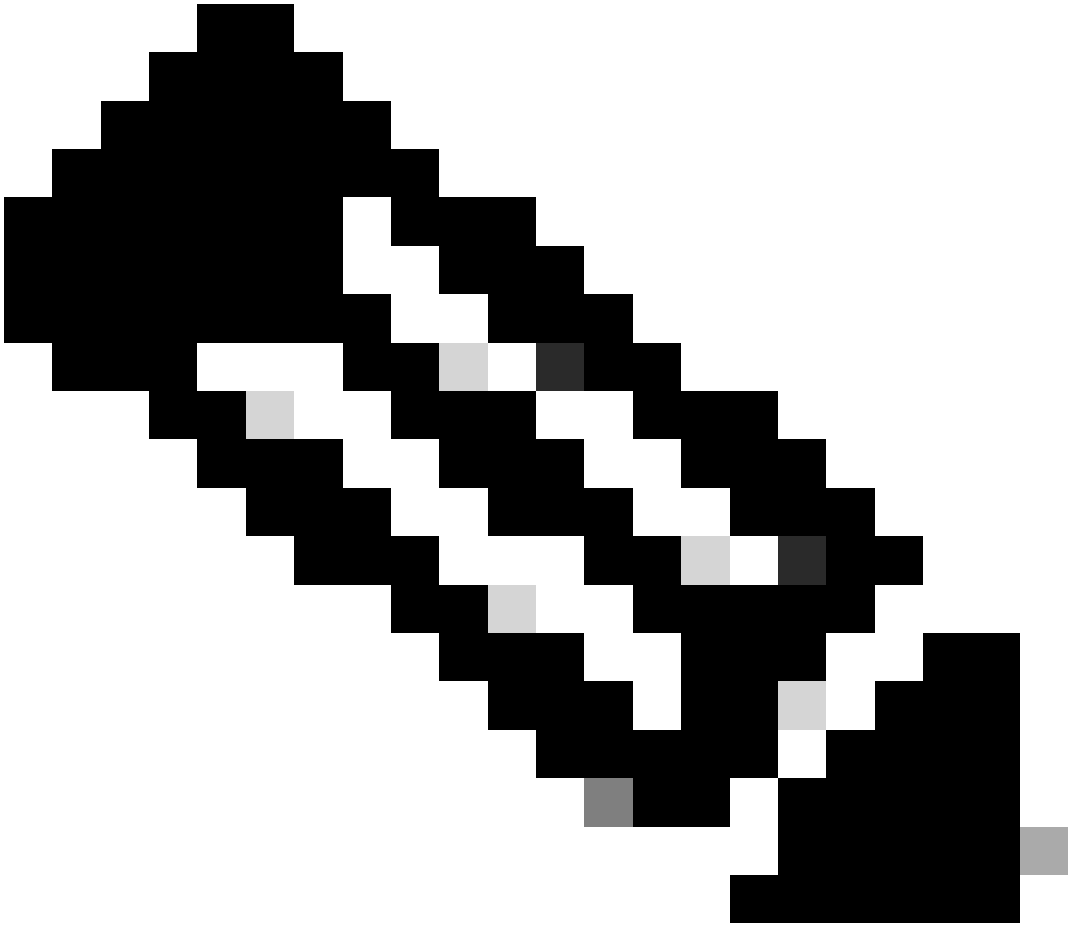
Table 1. Cisco Hyperflex Remote Plugin Appliance Compatibility Matrix

vCenter Plugin Version	Cisco Hyperflex Release	ESXi version	vCenter version
3.0.0 and later	4.0 (2f) and later	6.7 u3 and later	7.0 and later

The deployment is an OVA-based installation with a Cisco Secured Linux Image.

Cisco Hyperflex Remote Plugin can be done in two ways.

- Deployment through vCenter.
- Deployment directly on a standalone ESXi host.



Note: The recommended deployment method is through vCenter

Once deployed, the Appliance have the configuration describe in Table 2 and Table 3.

Table 2. VM Hardware configuration

CPU	1 vCPUs
Memory	8 GB
Hard disk 1	48.83 GB
Network Adapter	1

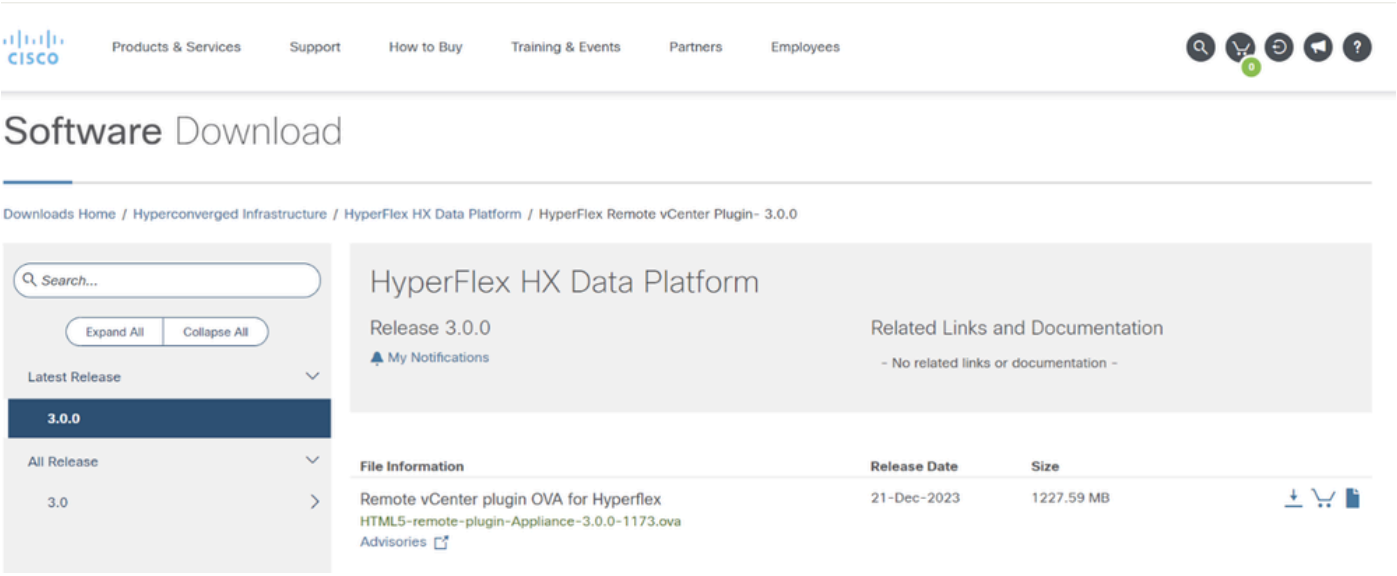
Table 3. VM Software configuration

Guest OS	Ubuntu Linux 20.04.6 LTS Cisco Secured Linux
Compatibility	ESXi 6.7 U2 virtual machine
VMware Tools	open-vm-tools 11.3.0.29534 (build-18090558)

Procedure

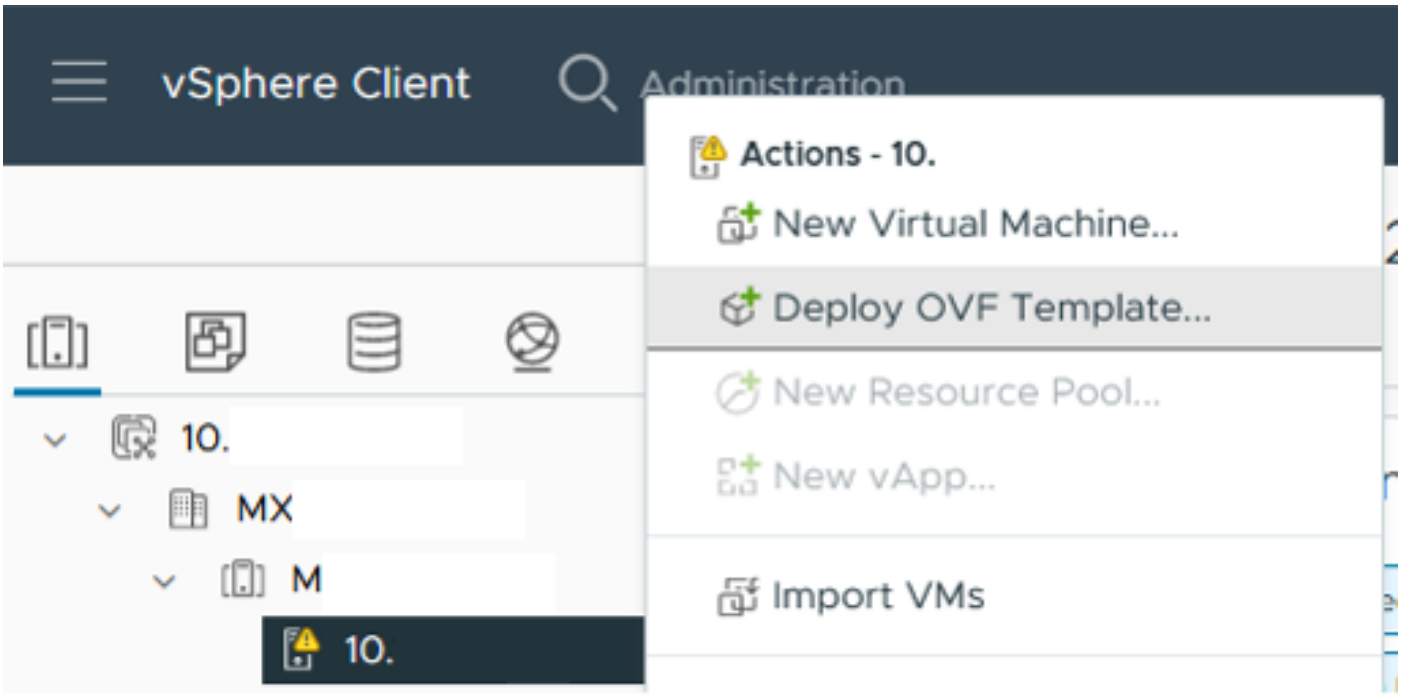
Step 1. Download the Cisco HyperFlex HTML plugin OVA for VMware vCenter from the Cisco Software Download site.

To do this, navigate **Downloads Home > Hyperconverged Infrastructure > Hyperflex HX Data Platform > Hyperflex Remote vCenter Plugin - 3.0.0**.



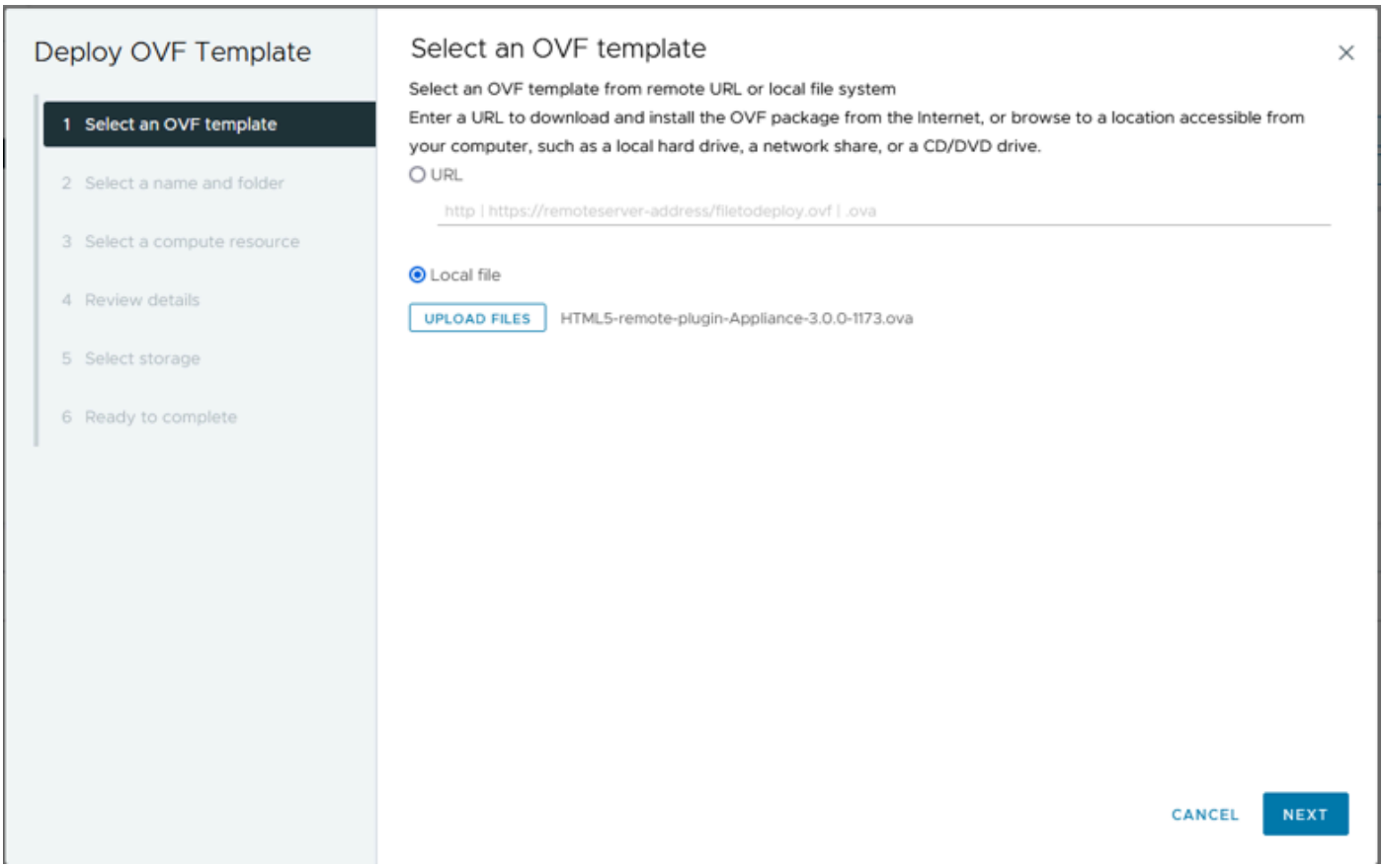
Cisco Downloads Website

Step 2. Login to the vCenter and select the host you want to deploy the Remote Plugin appliance. Right click on the host and click on Deploy OVF Template



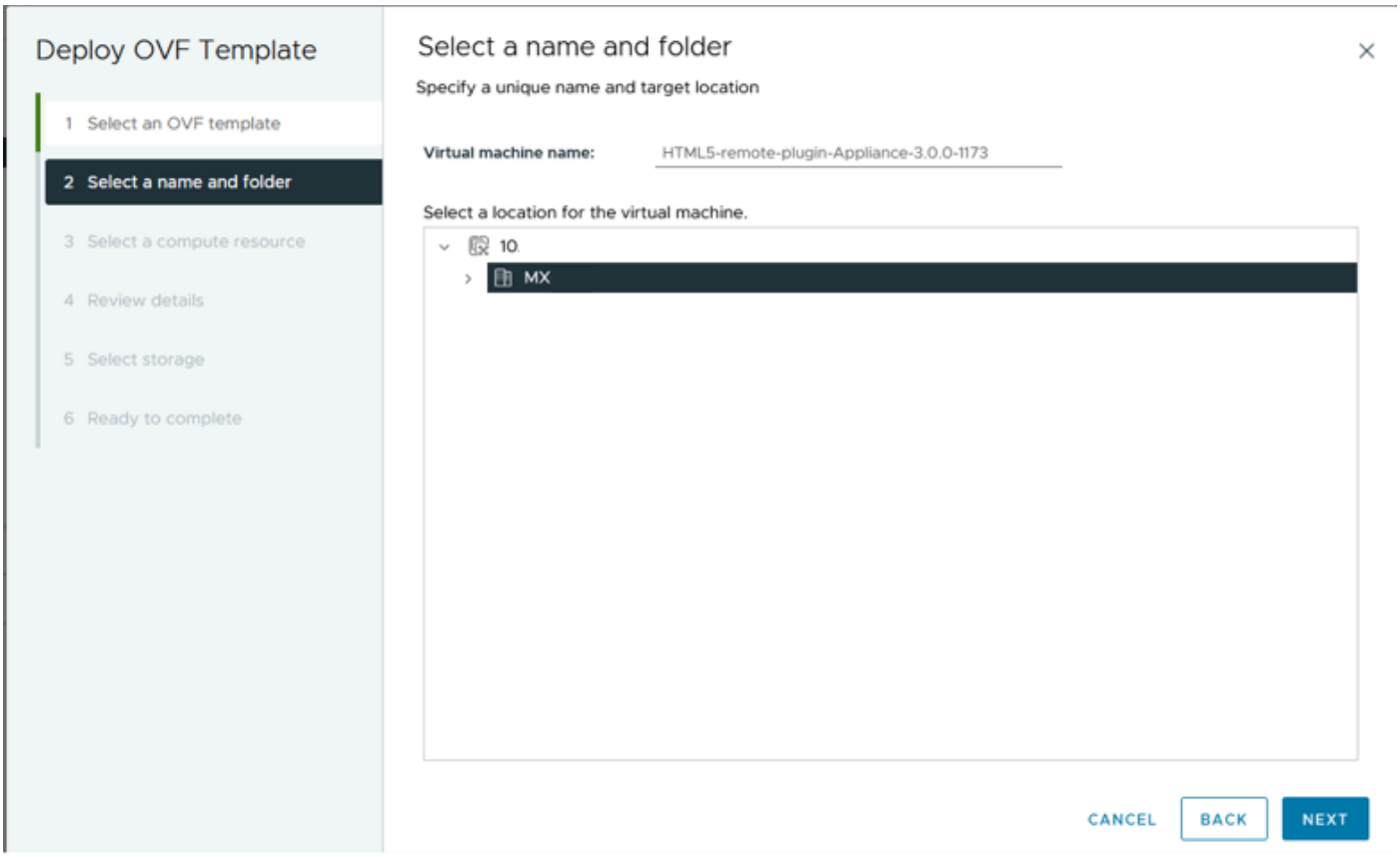
Deploy OVF Template

Step 3. Select the Local file option and upload the **HTML5-remote-plugin-Appliance-3.0.0-1173.ova** file, click **Next**.



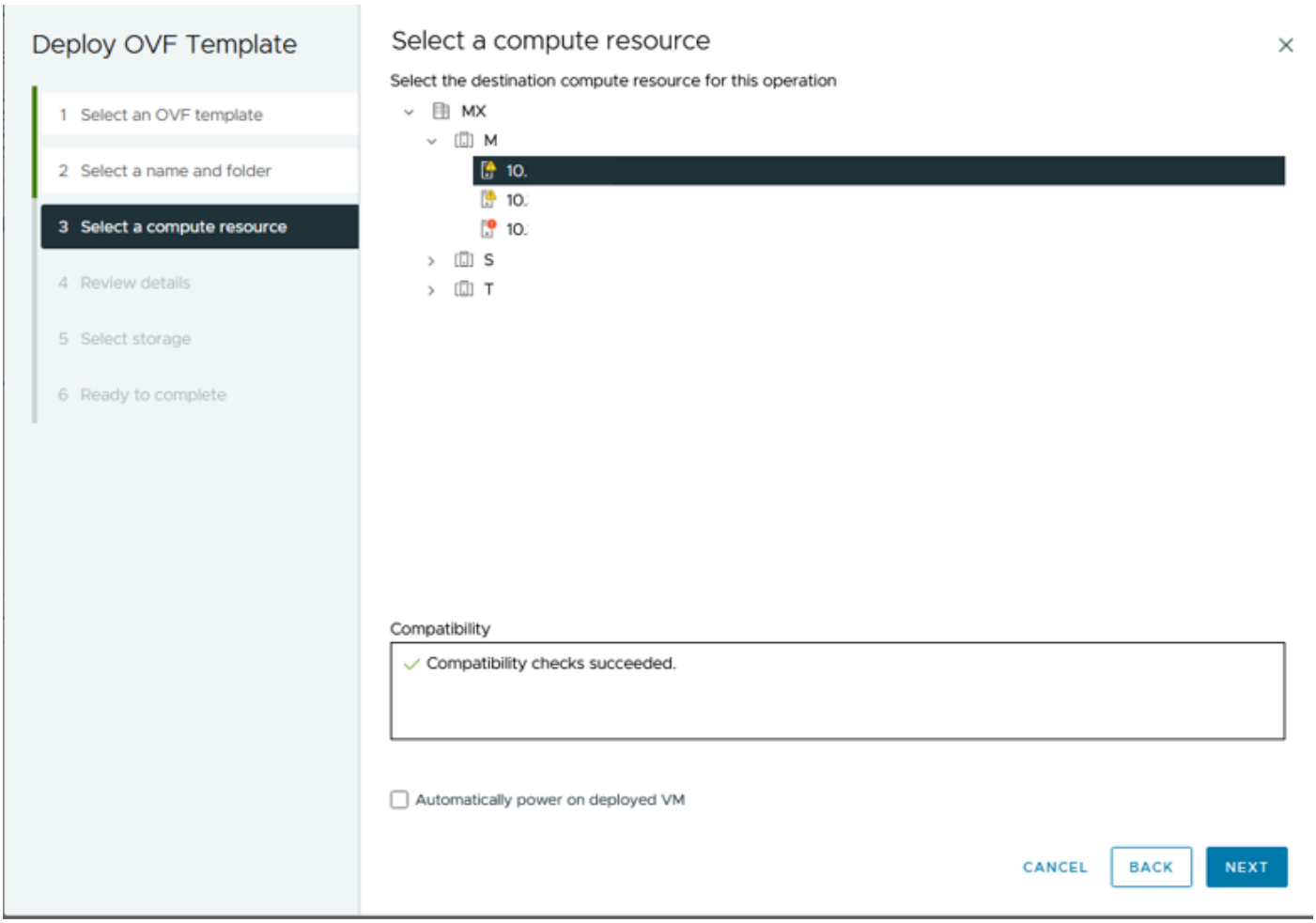
Select an OVF template

Step 4. Select the name for the Virtual machine and select a location for the virtual machine, click on **Next**.



Select VM name and folder

Step 5. Select a Server(ESXi host) for the deployment, click on **Next**.

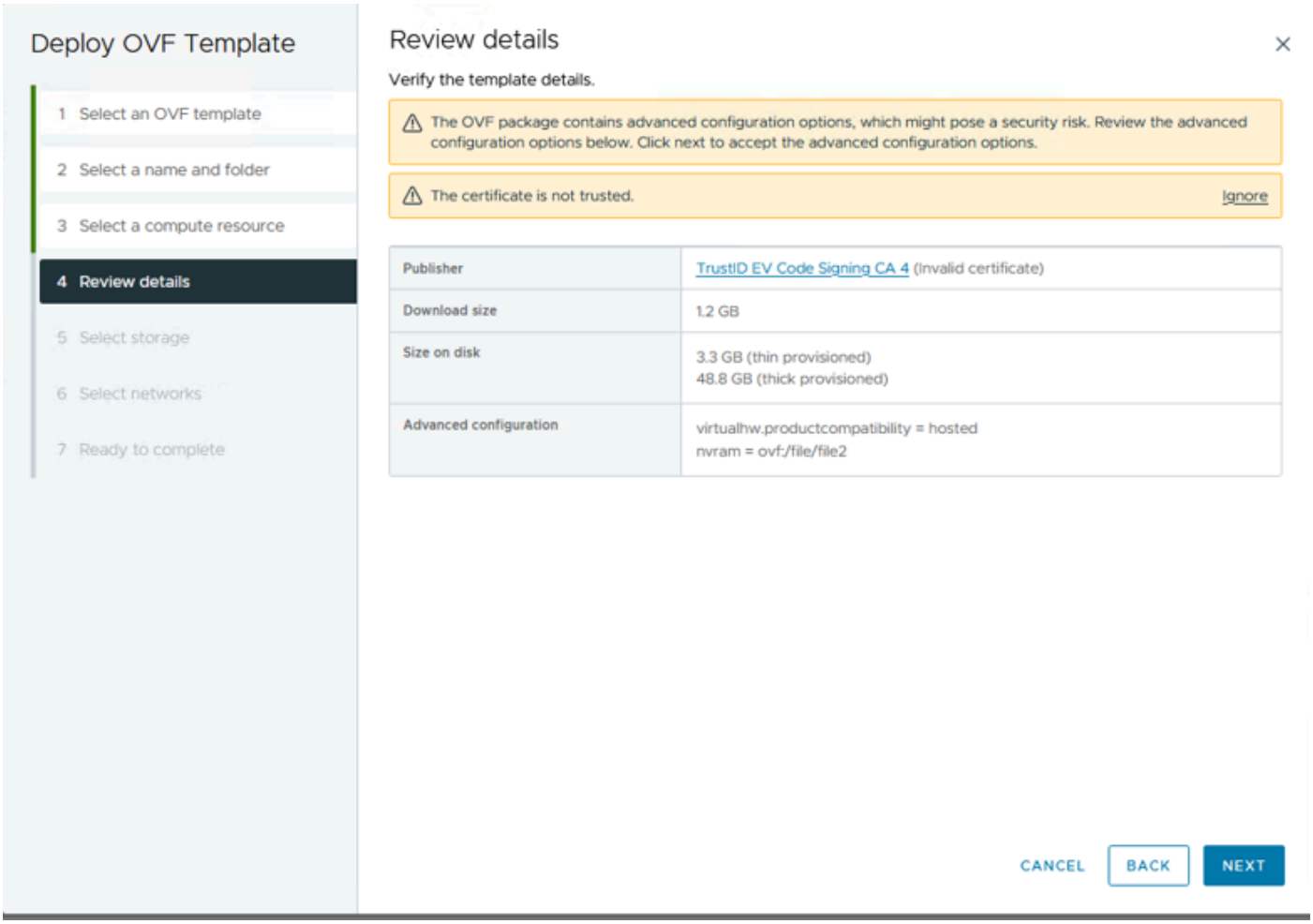


Select Server

Step 6. On the Review details section you see these warnings:

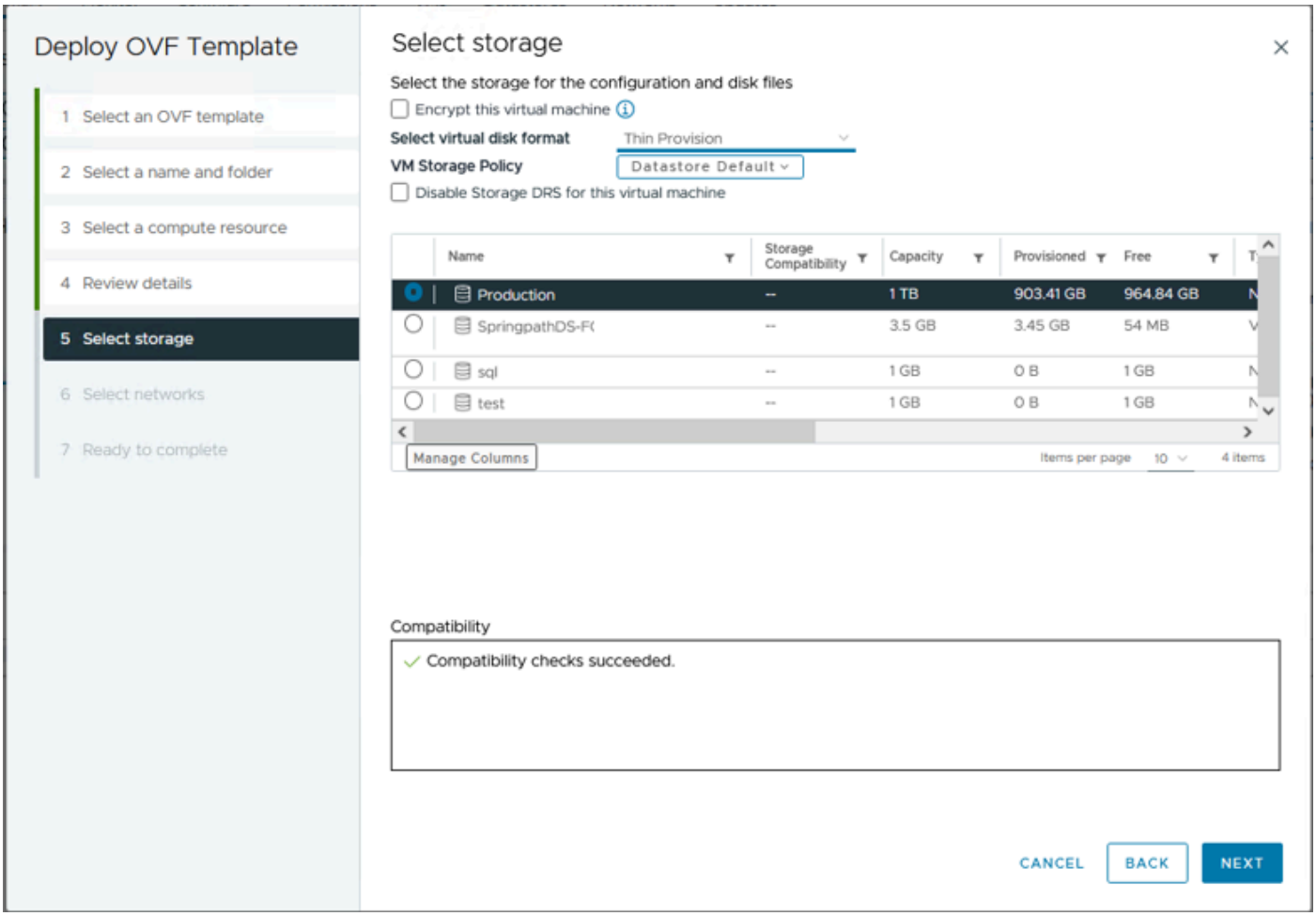
- The OVF package contains advanced configuration options, which poses a potential security risk. Review the advanced configuration options. Click next to accept the advanced configuration options.
- The certificate is not trusted.

You can safely ignore those warnings, click on **Ignore** and then click on **Next**



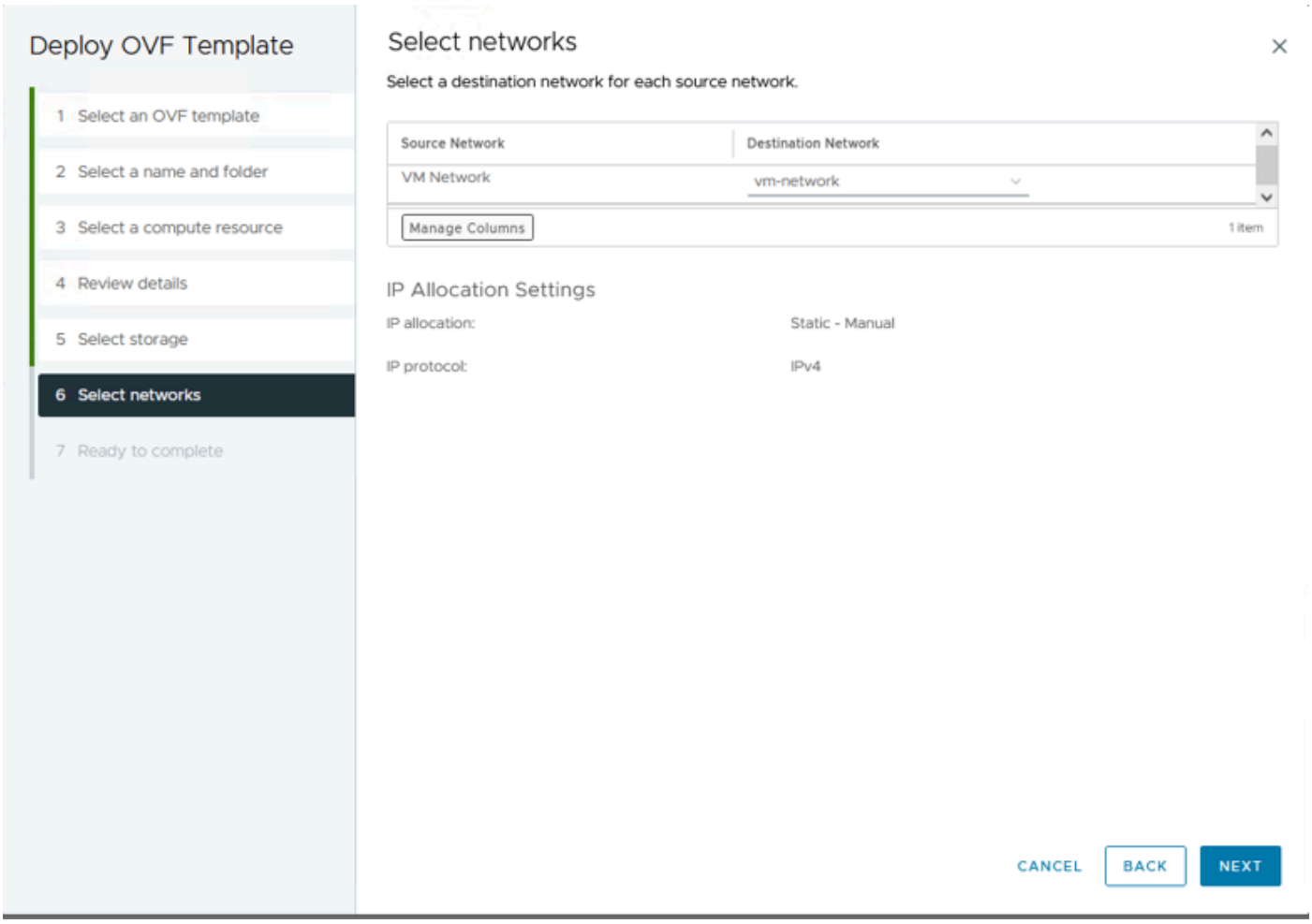
Review Details

Step 7. Select the datastore and select the disk format (Thin or thick provisioned), click on **Next**



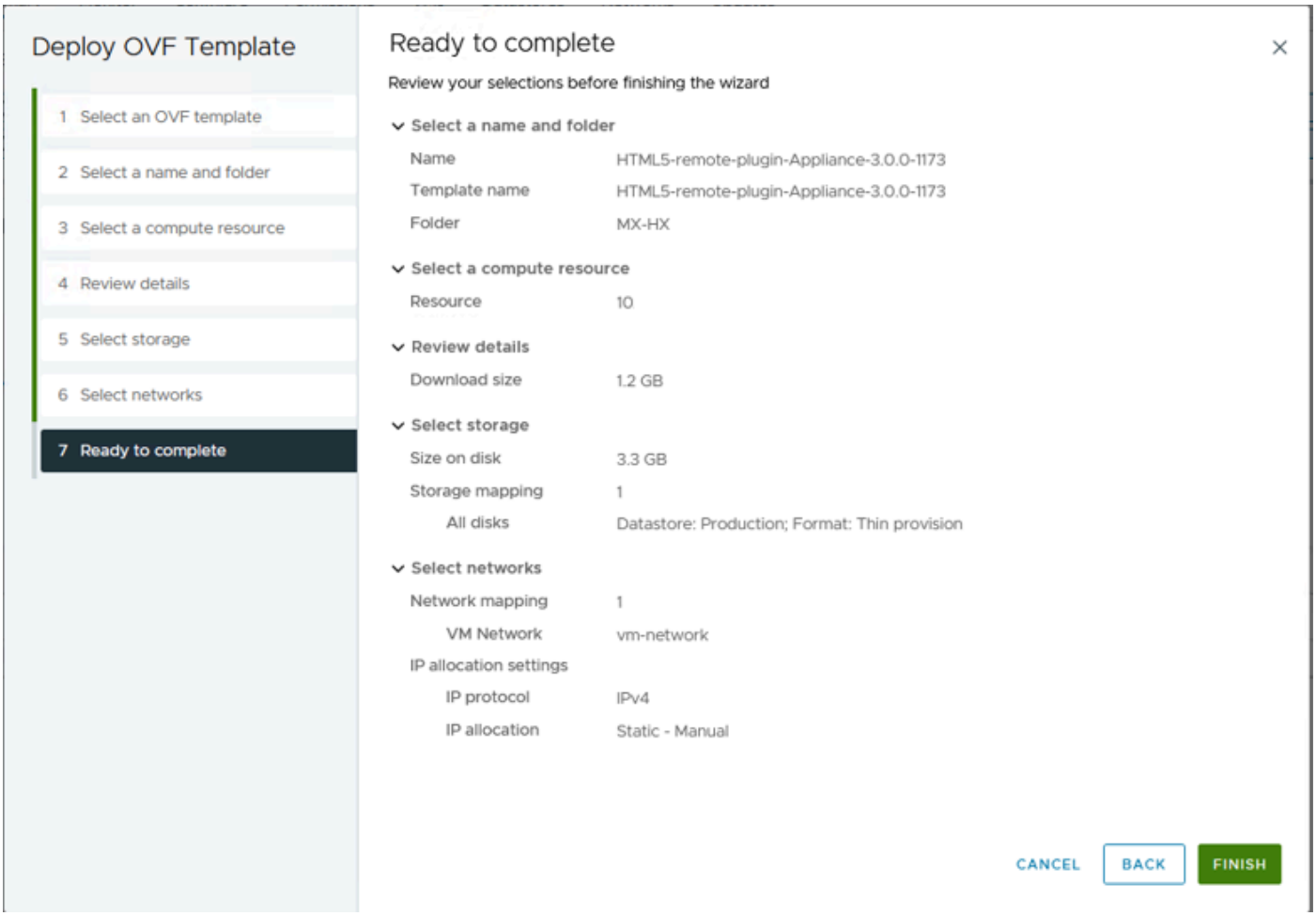
Select Datastore

Step 8. Select the portgroup for the VM network interface, click on **Next**



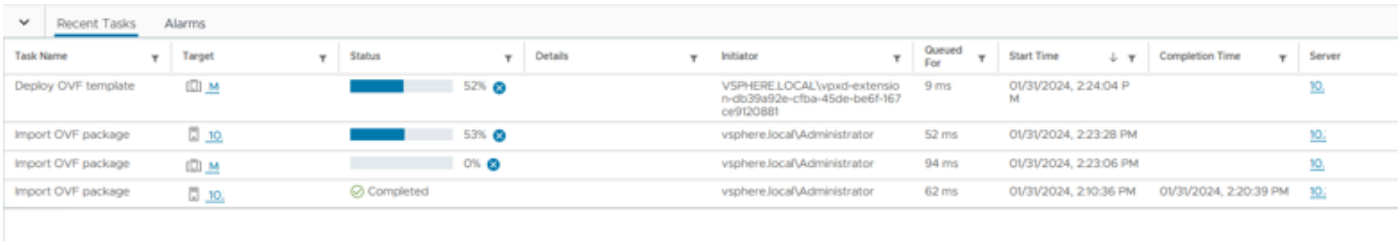
Select networks

Step 9. Review your selections before finishing the wizard, then click **Finish**.



Review your selections

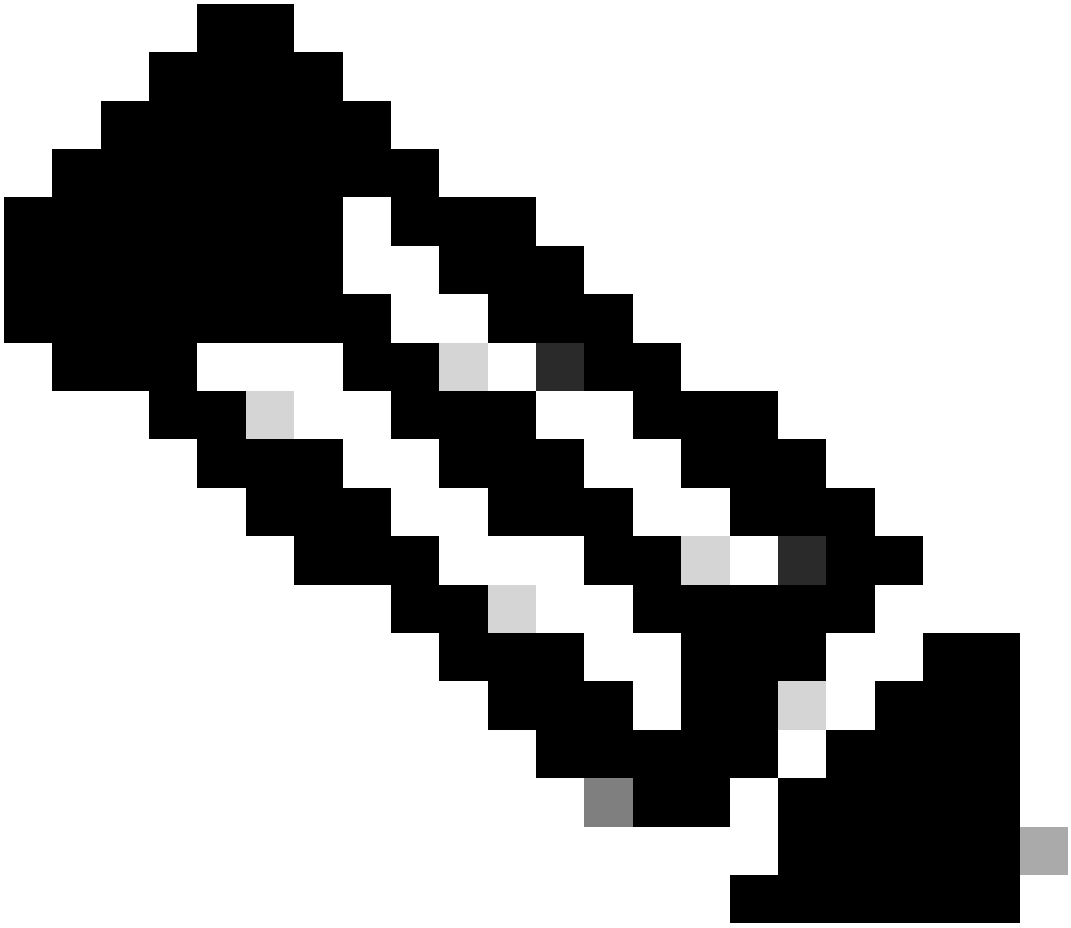
Step 10. Watch the progress in the vCenter Recent Tasks tab



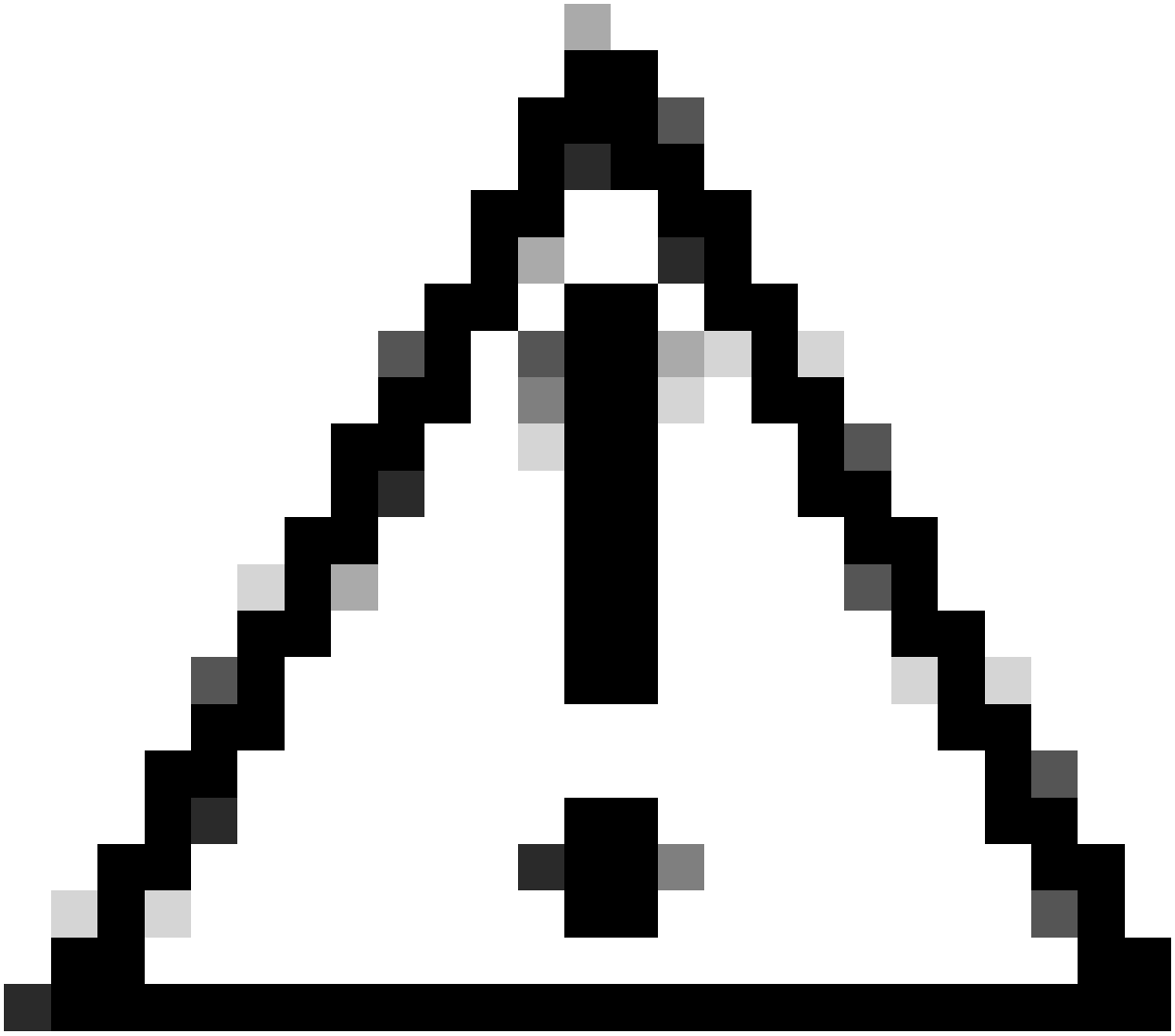
vCenter Recent Tasks

Step 11. Power on the Hypeflex Remote Plugin Virtual appliance. After the initial startup process a login prompt appears, use these credentials to Log in.

- Default username: vcp-admin
- Default password: C^scohxplugin@1984

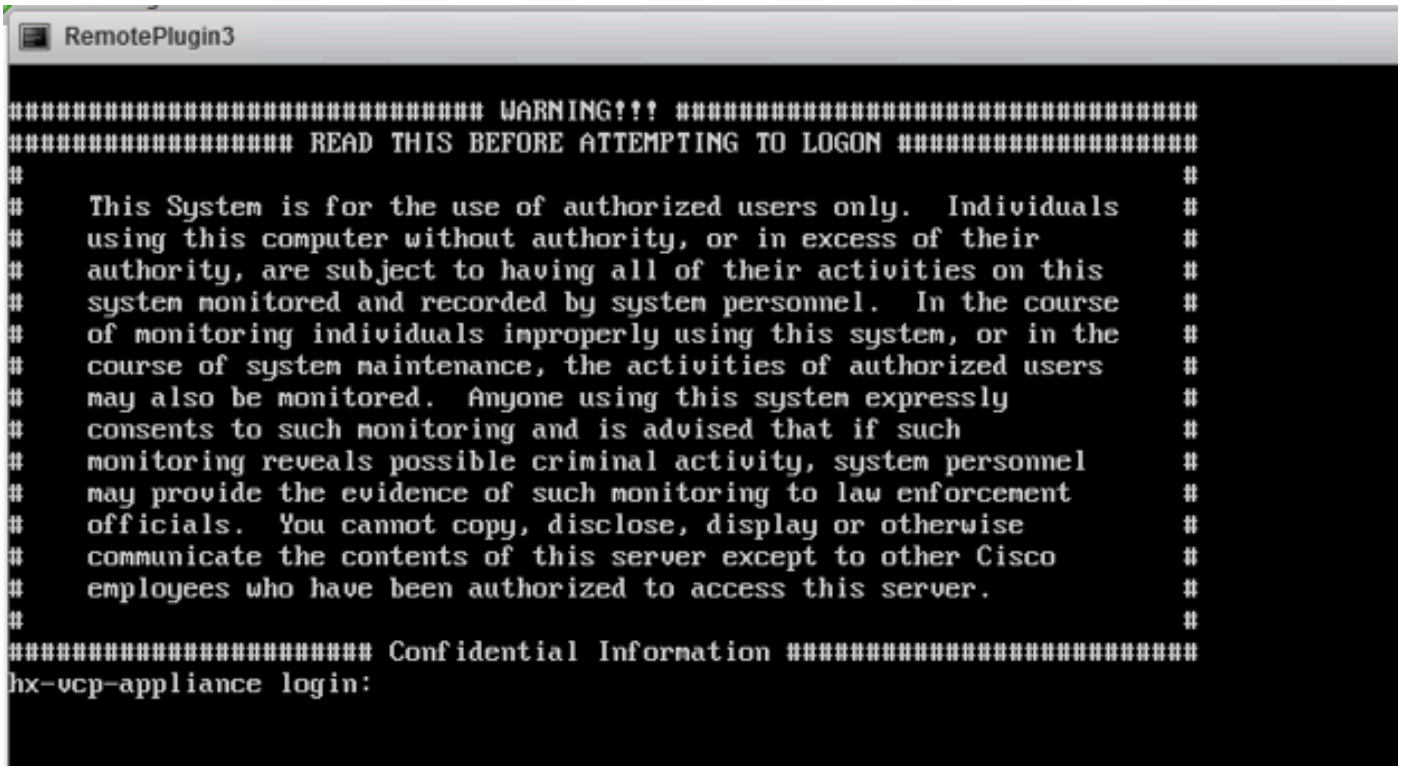


Note: The creation of additional users or the use of the root user is not supported.



Caution: To get access to the Web GUI you need to change the default password. Otherwise, you get this error message:

Login using factory default password is disabled for security reasons. Please change the factory default password via ssh login/console and try login with new password.



Console Login screen

Configure Management IP Address

By default, the Appliance gets an IP address from a DHCP Server available in the Portgroup/VLAN where the vnic was assigned.

Once you login into the Appliance you can find the assigned IPv4 address.

Current IP Address

It is recommended to configure a static IP address to the virtual Appliance. To do this use the command **hx-ip-address-change** and follow the configuration wizard.

```
vcp-admin@hx-vcp-appliance:~$ hx-ip-address-change
Do you want to set Static IP (or) DynamicIP address (Options: static / dynamic )? static
Enter IP address(e.g., 192.168.1.2): 10.
Enter Subnet Mask bits (bits for 255.255.248.0 is 21): 24
Enter Gateway address: 10.
Enter DNS server addresses separated by comma and spaces (e.g., 8.8.8.8, 8.8.4.4): 10.
vcp-admin@hx-vcp-appliance:~$
```

Change IP Address

Verify the configured IP address using the **ifconfig** command.

```
Last login: Tue Jan 30 06:47:43 UTC 2024 from 192           on pts/0
vcp-admin@hx-vcp-appliance:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.            netmask 255.255.255.0  broadcast 192.
        inet6 fe80::20c:29ff:fe09:cba  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:09:0c:ba  txqueuelen 1000  (Ethernet)
        RX packets 110  bytes 9520 (9.5 KB)
        RX errors 0  dropped 56  overruns 0  frame 0
        TX packets 52  bytes 4912 (4.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 48  bytes 4112 (4.1 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 48  bytes 4112 (4.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

vcp-admin@hx-vcp-appliance:~$
```

Verify IP Address

Change Password

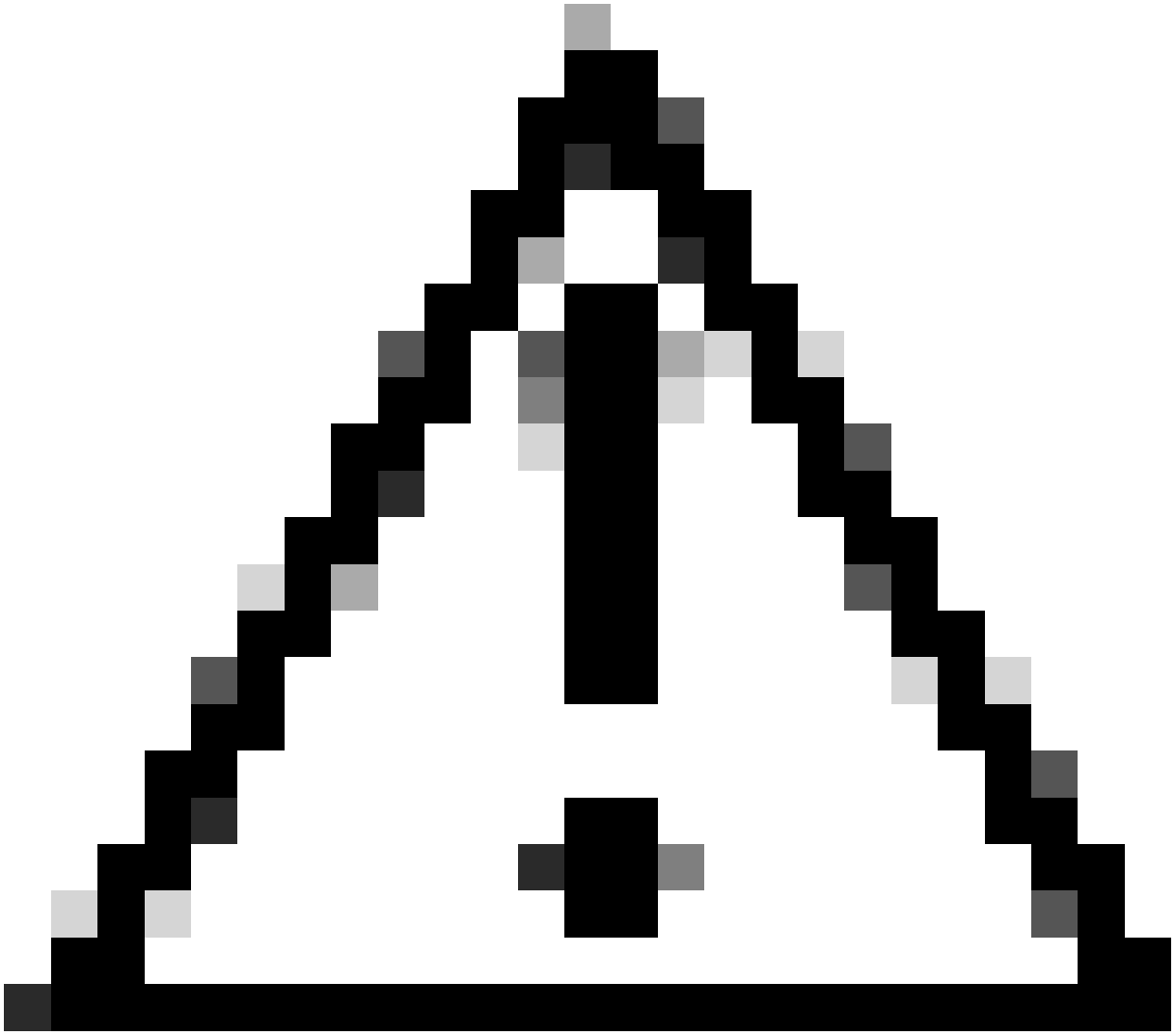
You can change current password for user vpc-admin using the command **passwd vcp-admin** providing the current password and the New password.

```
Last login: Mon Dec 18 14:15:53 UTC 2023 from 10          on pts/0
vcp-admin@hx-vcp-appliance:~$ passwd vcp-admin
Changing password for vcp-admin.
Current password:
New password:
Retype new password:
passwd: password updated successfully
```

Change Password

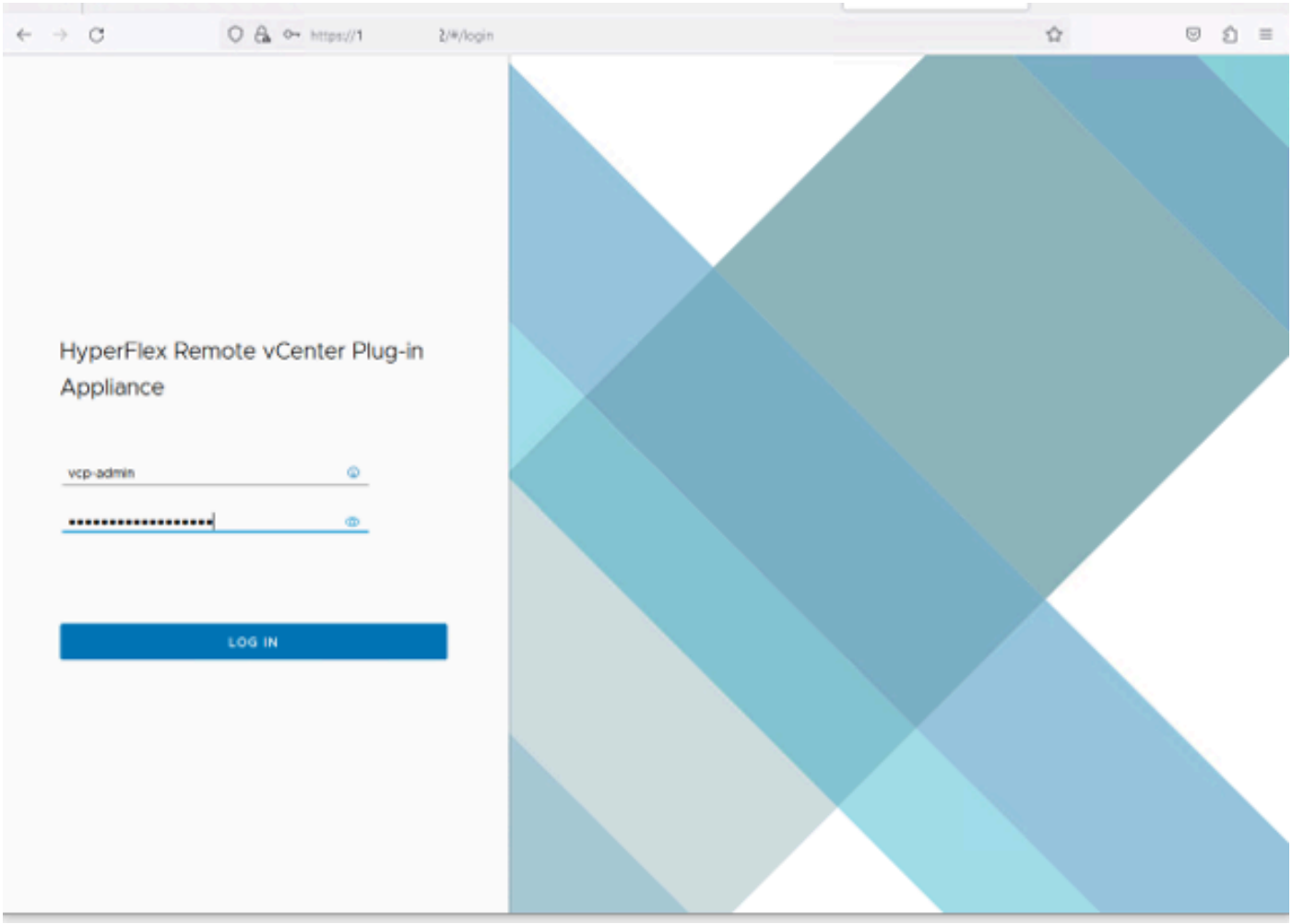
Register a vCenter

The registration of vCenter into the Cisco Hyperflex Remote Plugin Appliance is UI based.



Caution: Users with an active firewall need to verify that ports 433, 9443 and 22 are open and allow traffic to pass in or out between vCenter and Remote Plugin Appliance.

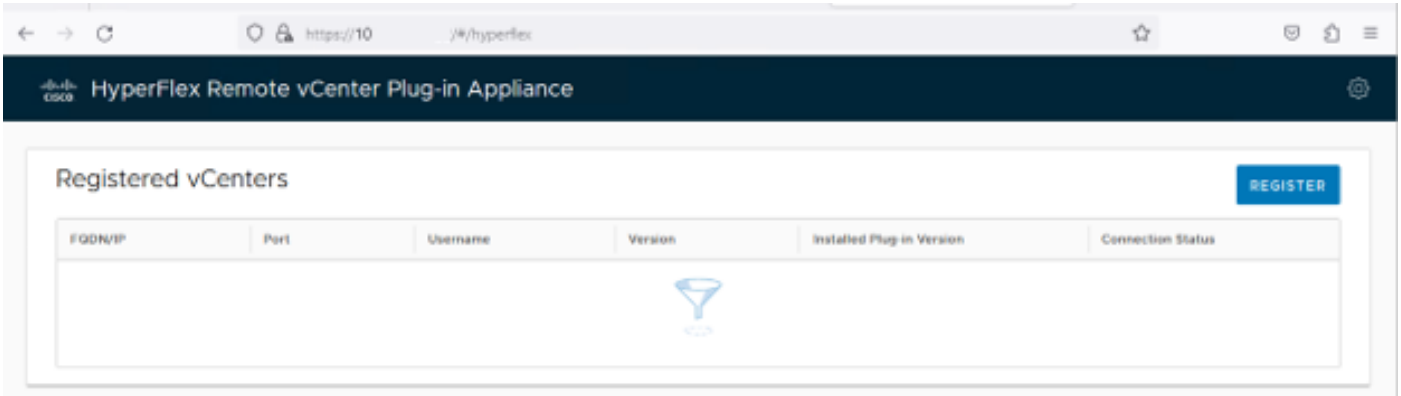
Step 1. Enter the IP in browser (https://ip) to open the plugin server management UI. Login with **vcp-admin** user and your current new password.



Hyperflex Remote vCenter Plug-in Appliance Login screen

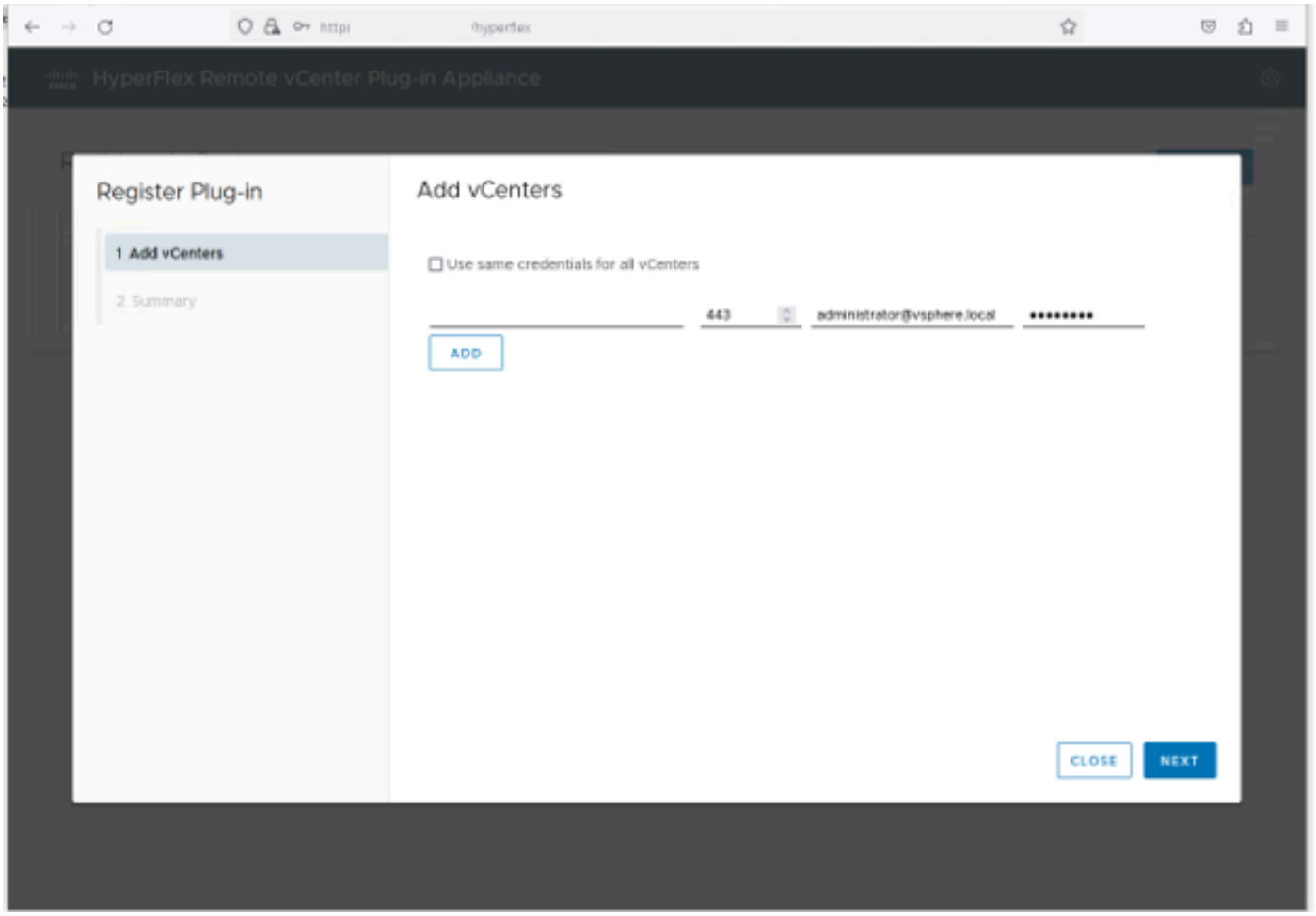
Tip: To verify the current Application version and supported vCenter versions, once you successfully log in, click on the Gear on the top right corner of the screen.

Step 2.. Once you login click on the **REGISTER** button on the main dashboard.



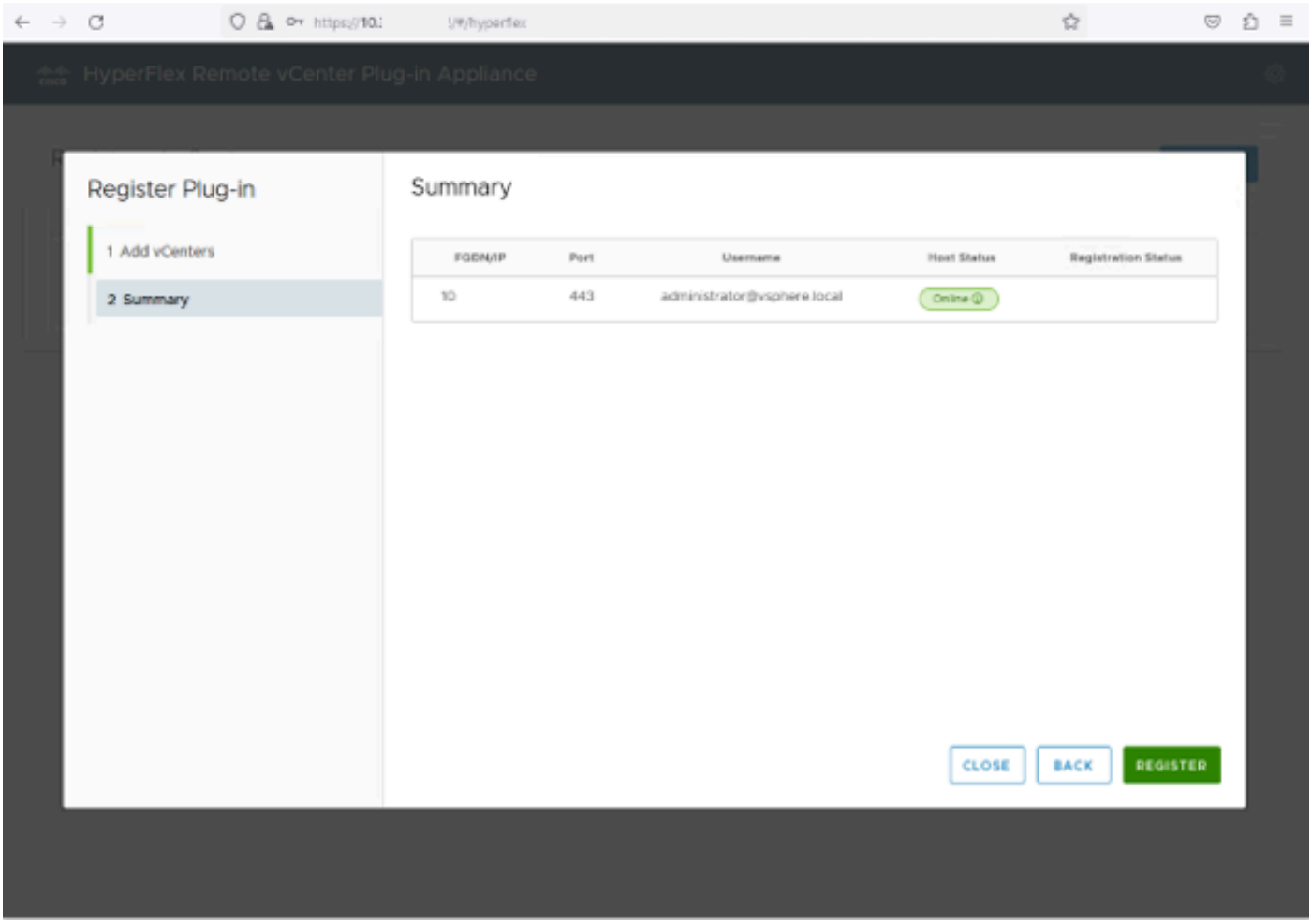
Main Dashboard

Step 3. Click on the **REGISTER** button to add the vCenter information where you want to deploy the remote plugin. Provide the IP address, port (443 by default) and vCenter username with enough privileges to perform the deployment. Click Next



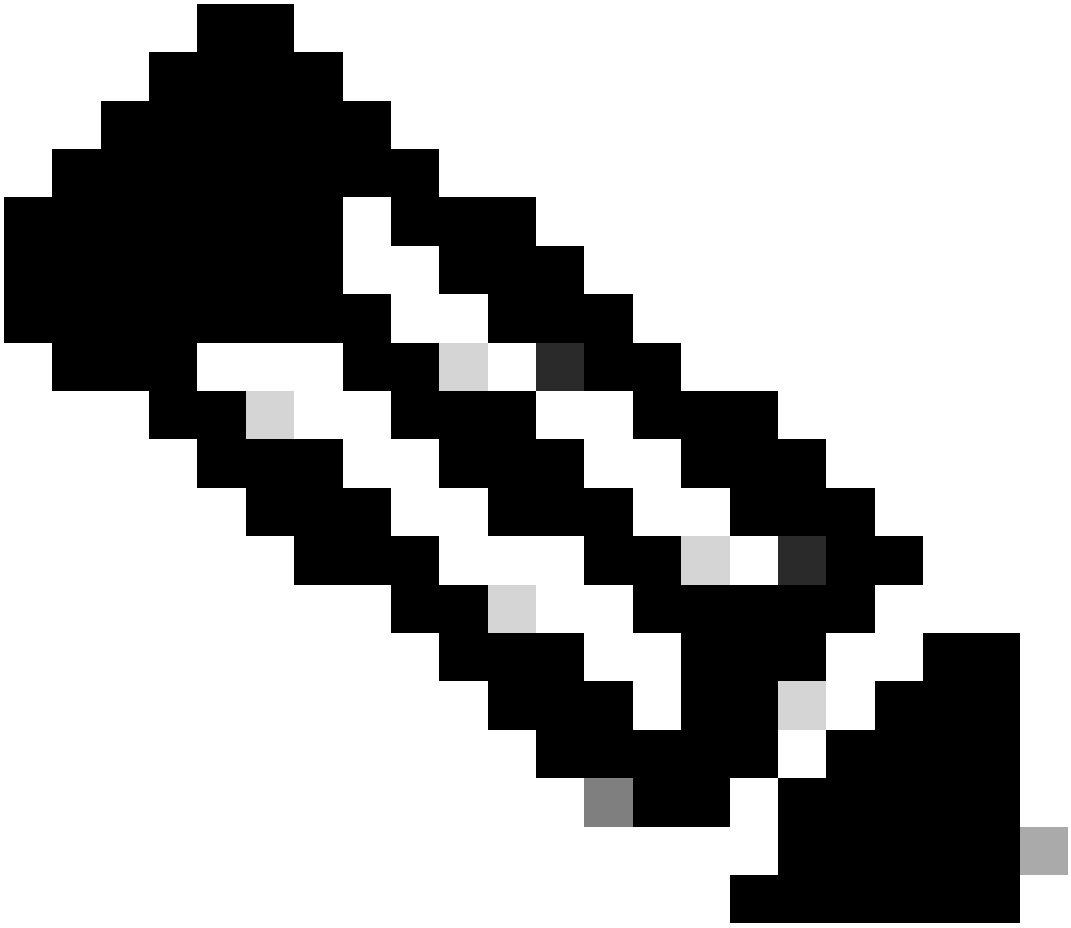
Add vCenters

Step 4. The system performs a connectivity test and appear online if it is able to reach the vCenter with the information provided. To proceed with registration click on the green **REGISTER** button

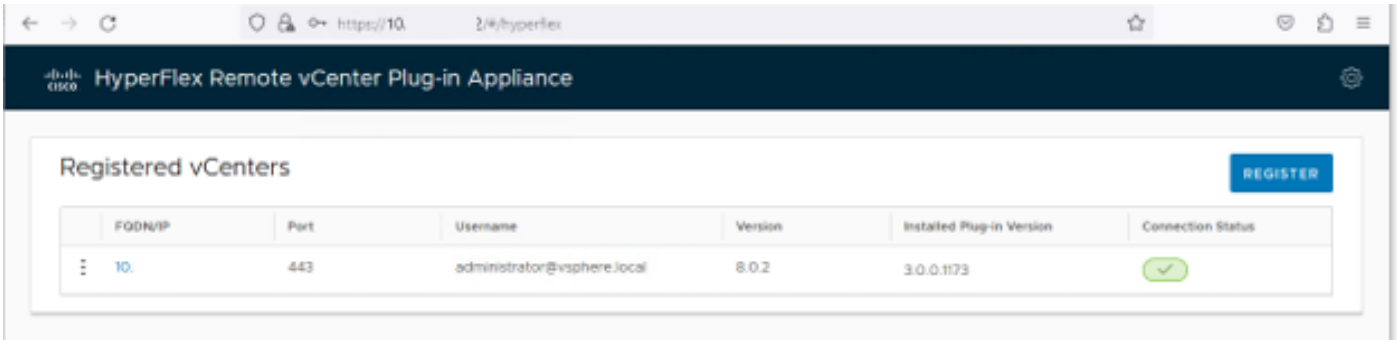


Add vCenter Summary

Step 5. Confirm that the configured vCenter is in the Registered vCenters list.

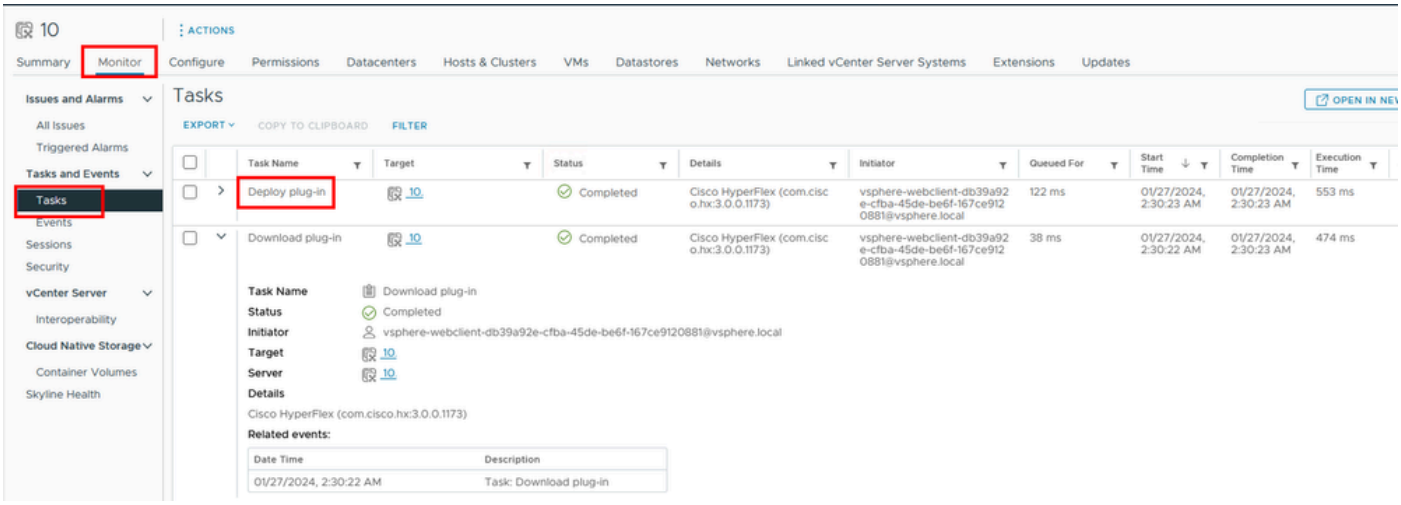


Note: Click on the three dots menu on the left of a registered vCenter if you wish to Update the Installed Plug-in Version currently installed on that vCenter or Unregister the vCenter.



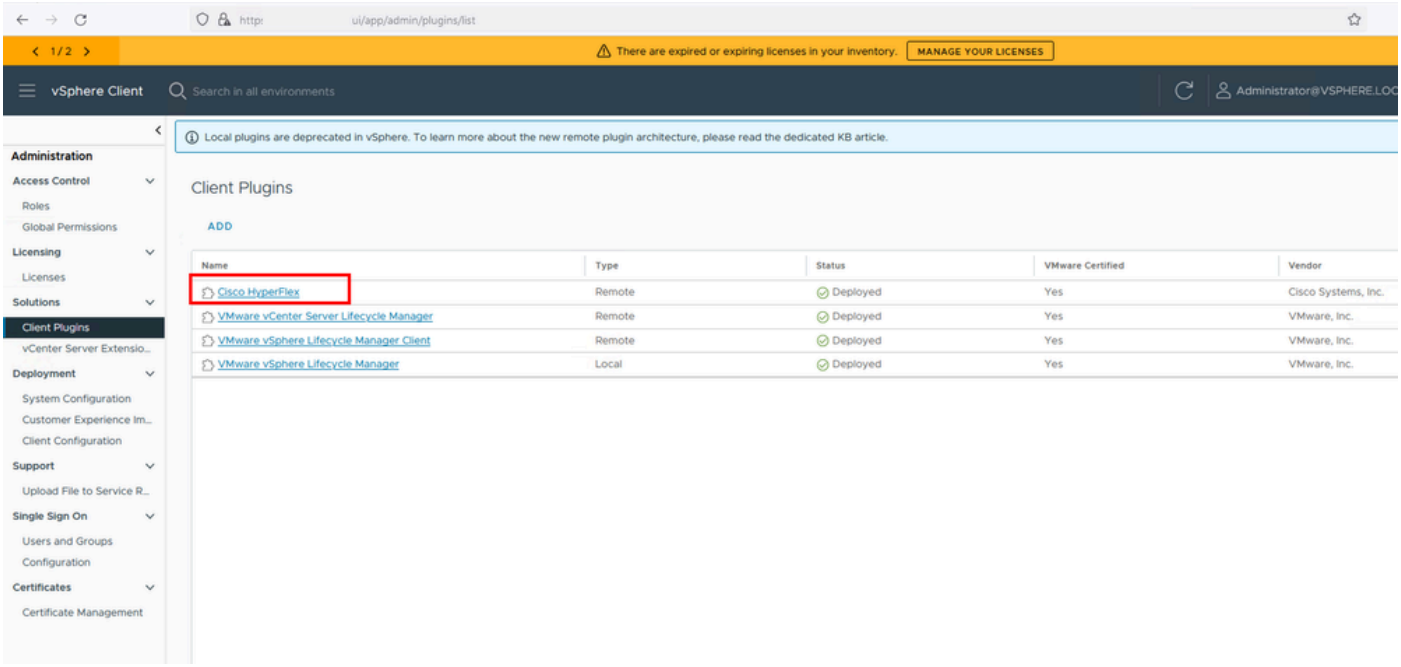
Registered vCenters

Step 6. Verify in vCenter that the plug-in was successfully deployed. Two task are visible and marked as completed. “Download plug-in” and “Deploy plug-in".



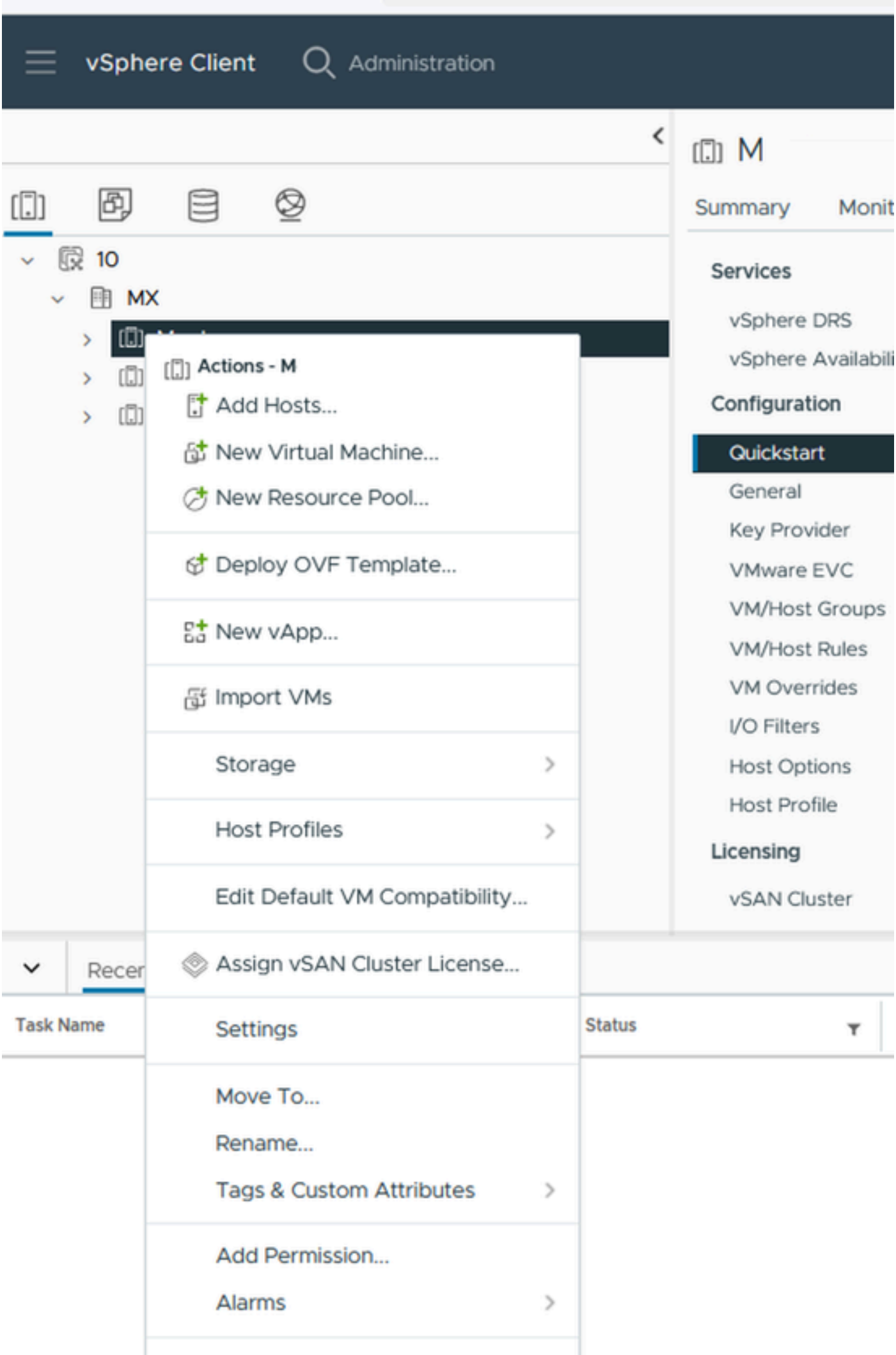
Verify Deployment tasks in vCenter

Step 7. Verify that the the plug-in is registered under vCenter Administration Client Plugins tab. As you can see, the type of plug-in is Remote and it is successfully deployed.



Verify plug-in is installed

Step 8.. To view the Cisco HyperFlex HTML5 plugin options in the vSphere UI, log out and log in again to vCenter.. Once you log in again, right click on your Hyperflex cluster to find at the bottom the Cisco Hyperflex plugin


vSphere Client
Administration
M
Summary
Monit
10
MX
Actions - M
Add Hosts...
New Virtual Machine...
New Resource Pool...
Deploy OVF Template...
New vApp...
Import VMs
Storage
Host Profiles
Edit Default VM Compatibility...
Assign vSAN Cluster License...
Settings
Move To...
Rename...
Tags & Custom Attributes
Add Permission...
Alarms
Services
vSphere DRS
vSphere Availabili
Configuration
Quickstart
General
Key Provider
VMware EVC
VM/Host Groups
VM/Host Rules
VM Overrides
I/O Filters
Host Options
Host Profile
Licensing
vSAN Cluster
Recer
Task Name
Status

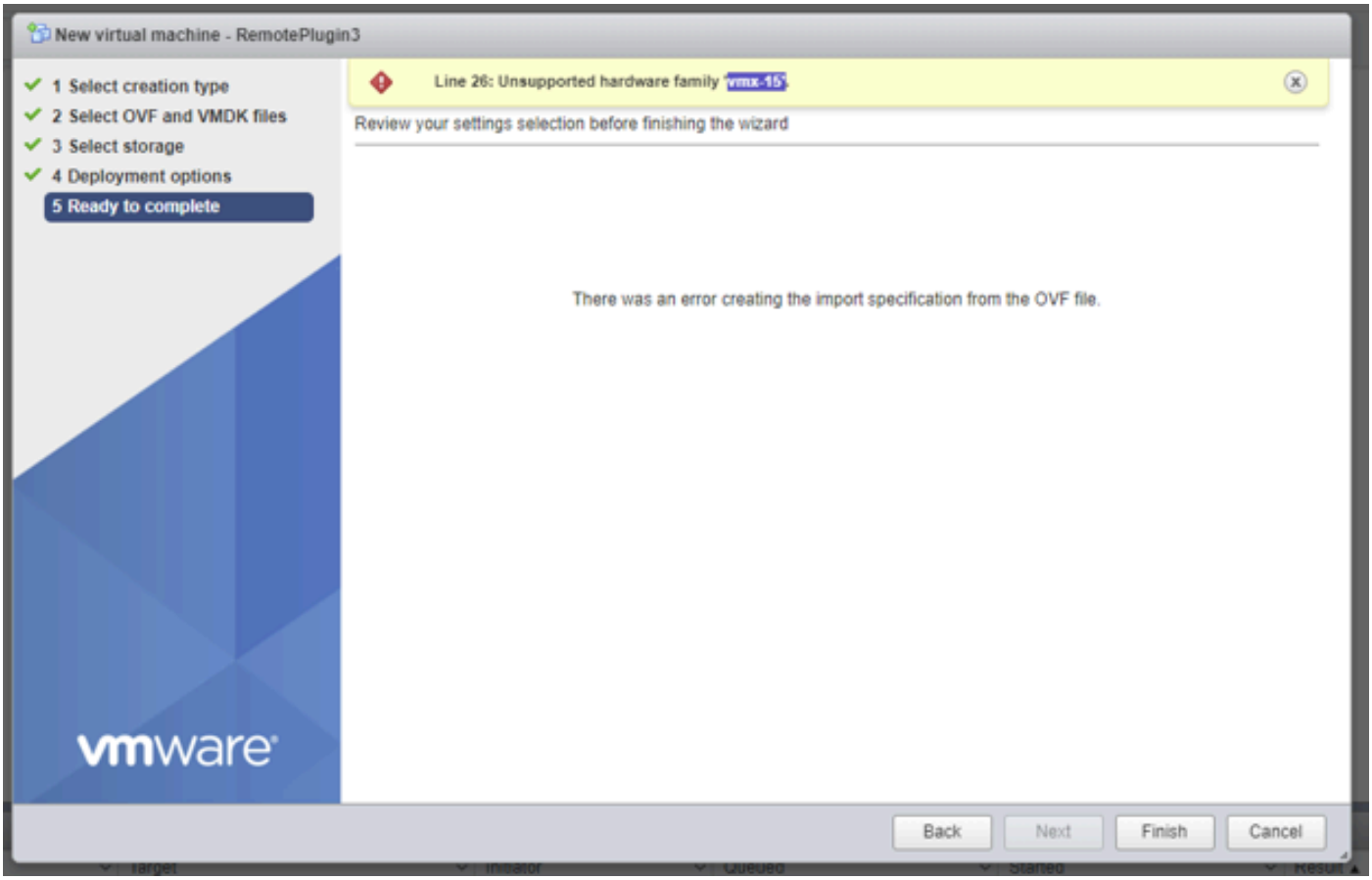
: The configuration and feature functionality for the Remote and Local plugin are identical. For more information on any feature see the Cisco HyperFlex HTML5 Plugin for VMware vCenter section available in the Cisco HyperFlex Data Platform Administration Guide, Release 5.5, link available in the Related information section.

Troubleshooting

Unsupported hardware family

If you try to install on a lower version, such as ESXi 6.5, in the last step of the implementation you get this error:

Line 26: Unsupported hardware family 'vmx-15'



Unsupported hardware error

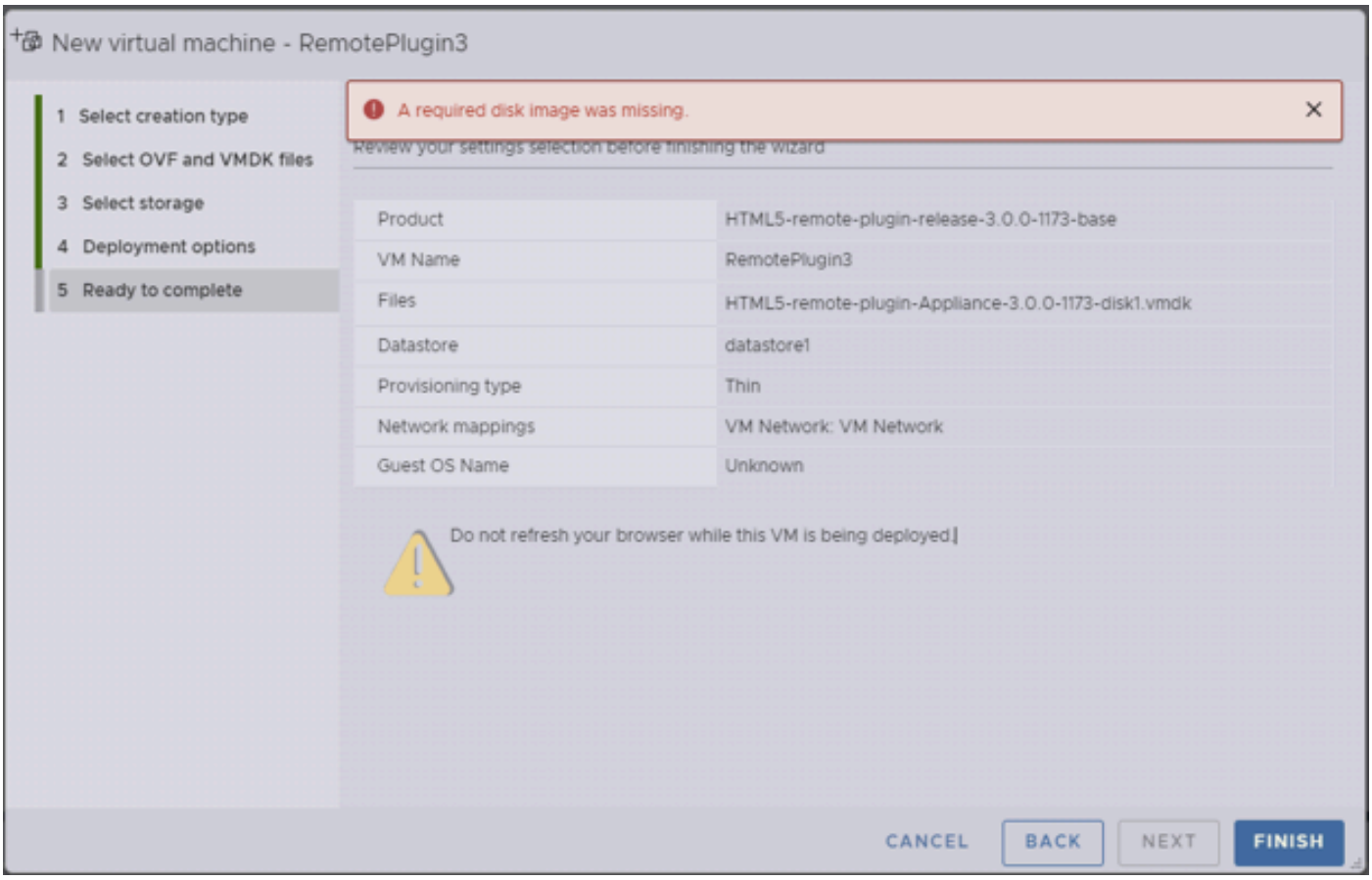
This is due to the virtual hardware version used by the VM, it is necessary to deploy on ESXi 6.7 U2 or higher.

It is important to note that a hardware version 15 VM cannot be vMotioned to a host on a prior version of ESXi, including ESXi 6.7u1, ESXi 6.7, ESXi 6.0 etc, as these prior ESXi versions are not compatible with the new hardware version. Similarly, vCenter 6.7 or vCenter 6.7u1 can be used to manage ESXi 6.7u2 hosts as long as hardware version 15 VMs are not in use. For customers looking to create, run, and manage hardware version 15 VMs, both the ESXi hosts in the cluster and vCenter need to be upgraded to at least 6.7u2.

For additional details please refer to VMware article: **Virtual machine hardware versions** (KB 1003746)

A required disk image was missing

If you try to deploy using the OVA file directly to a host with ESXi 6.7 U2 or higher, in the last step before starting the deployment you get this warning '**A required disk image was missing**'.



A required disk image was missing error

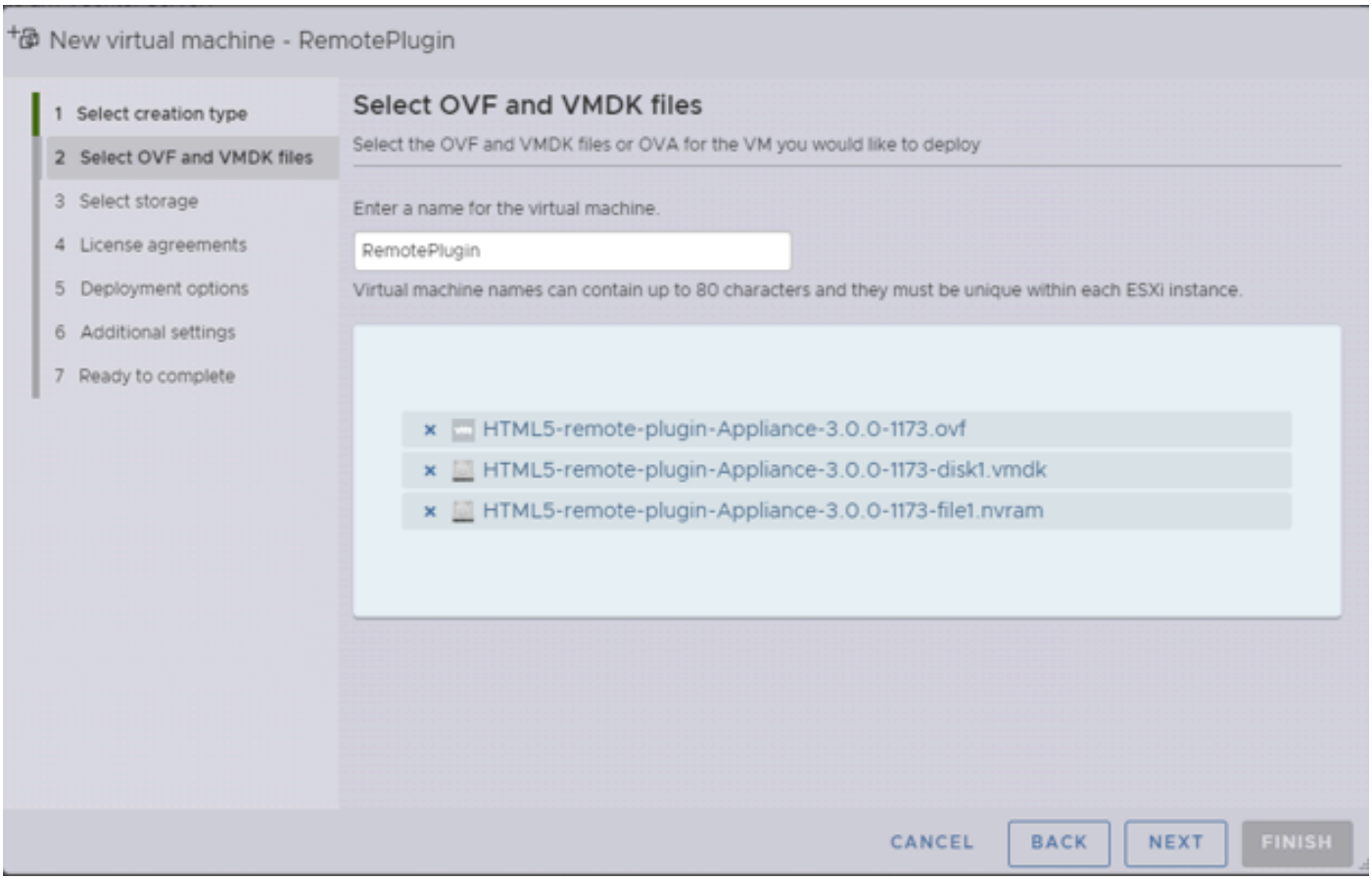
To mitigate this warning it is necessary to unzip the OVA file 'HTML5-remote-plugin-Appliance-3.0.0-1173.ova', for this you can use the decompressor of your choice, such as 7zip.

Inside the unzipped folder you find this list of files:

- HTML5-remote-plugin-Appliance-3.0.0-1173.cert
- HTML5-remote-plugin-Appliance-3.0.0-1173.mf
- HTML5-remote-plugin-Appliance-3.0.0-1173.ovf
- HTML5-remote-plugin-Appliance-3.0.0-1173-disk1.vmdk
- HTML5-remote-plugin-Appliance-3.0.0-1173-file1.nvram

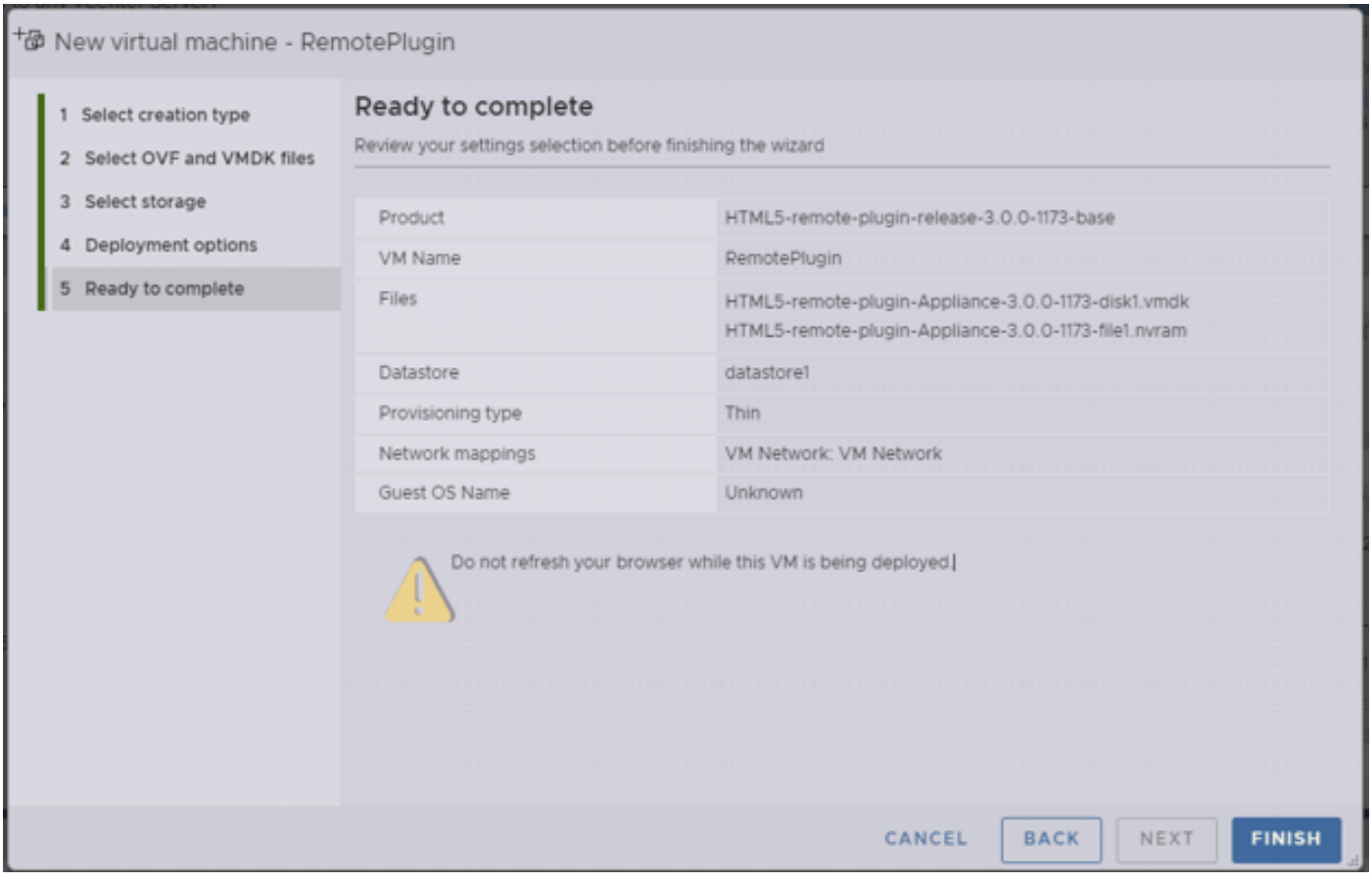
The required files for the deployment are:

- HTML5-remote-plugin-Appliance-3.0.0-1173.ovf
- HTML5-remote-plugin-Appliance-3.0.0-1173-disk1.vmdk
- HTML5-remote-plugin-Appliance-3.0.0-1173-file1.nvram



Providing required files

Once you provide the three files, the warning is gone

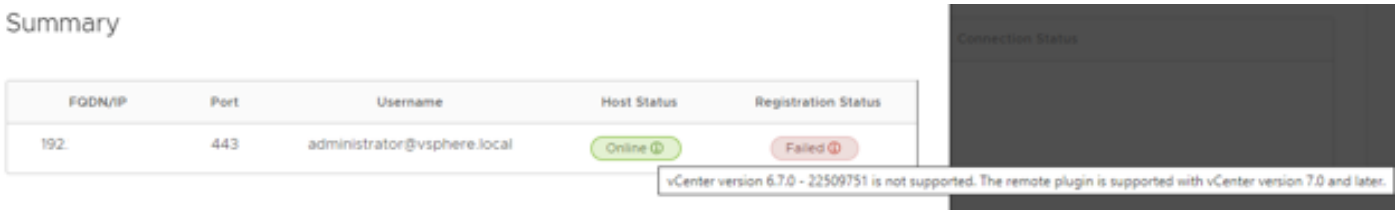


Ready to complete

vCenter Integration

Step 1. Verify that communication is allowed towards TCP port 443 of the FQDN (requires having configured DNS on the appliance) or vCenter IP address, in case of communication failure this can be seen in the Host Status column.

Step 2. Verify that the vCenter version is 7.0 or higher. If you try to register with an incompatible version, a '**Failed**' message appears in Registration status. By placing the mouse over the red box for a short period of time, it shows a description of the error message. In this image, you can see an example of failure message when integrating VM Remote plugin with Vcenter due to an incompatible version



Incompatible vCenter version

Additional Assistance

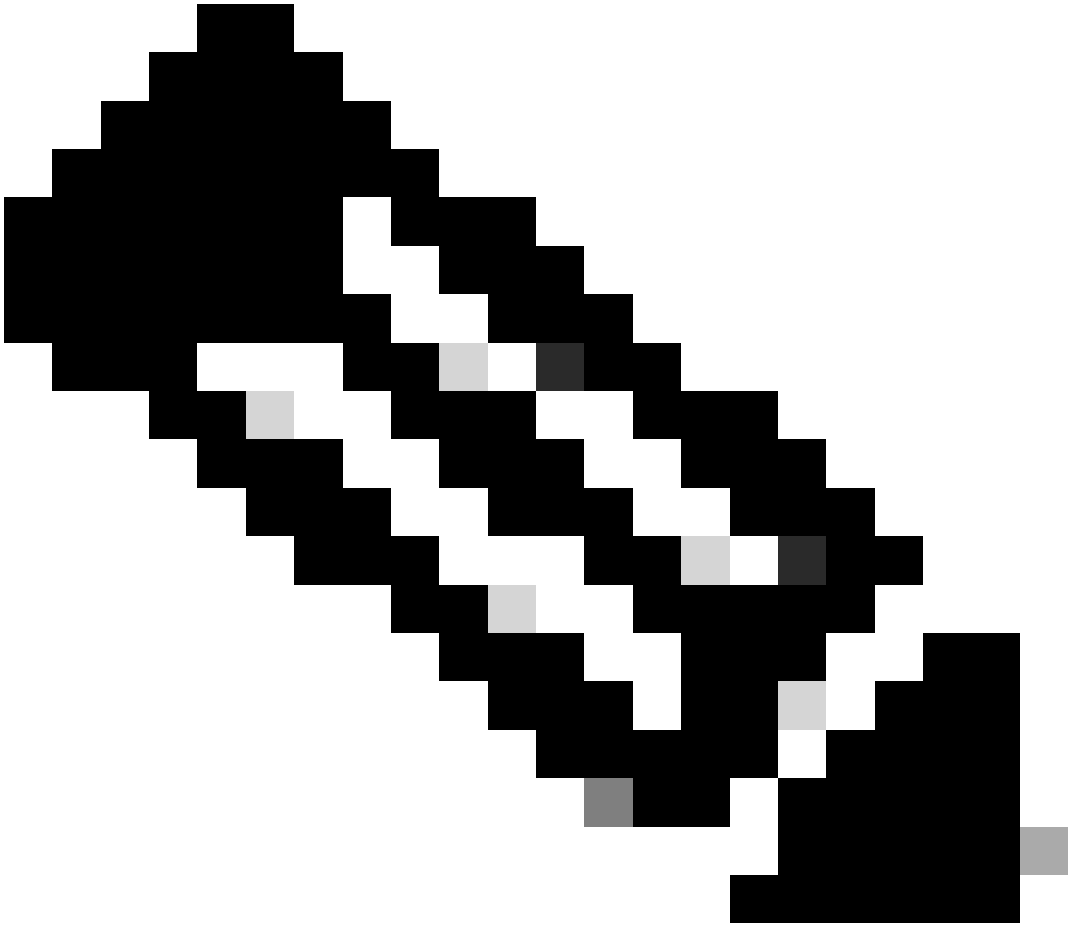
If you need additional support regarding the implementation or integration, you must contact Cisco TAC and attach the necessary log files.

Support bundle Generation

Support bundle generation is available only if you have at least one vCenter registered in the Cisco Hyperflex Remote Plugin Virtual Appliance.

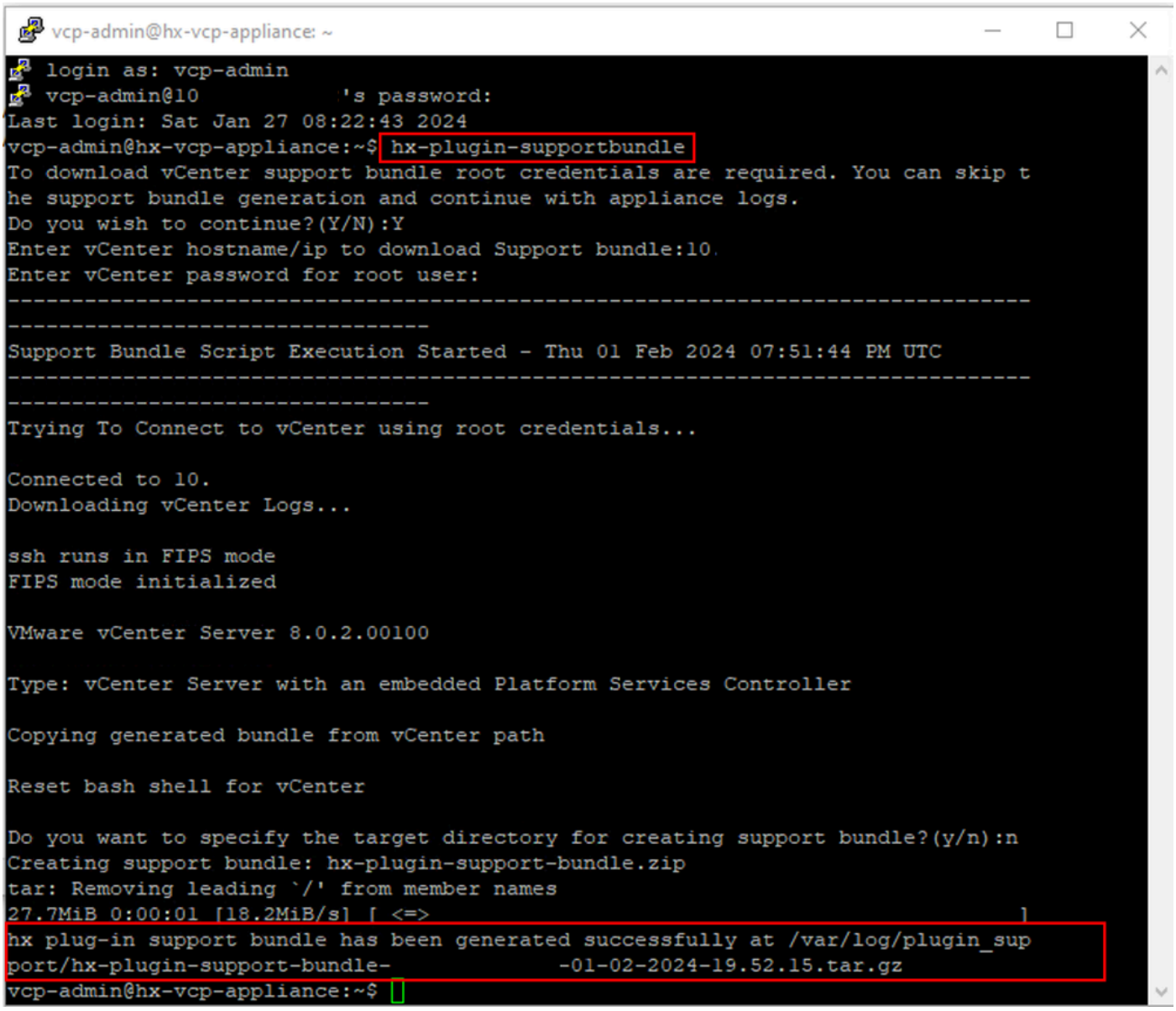
Currently the support bundle generation is through commandline. You need to login into the console of the appliance (or use SSH) and run the command **hx-plugin-supportbundle,** by default the support bundle is saved in the **/var/log/plugin_support/** directory.

User can specify the vCenter FQDN or IP address to proceed with the support bundle generation.



Note: root user credentials from the selected vCenter are required to generate the support bundle.

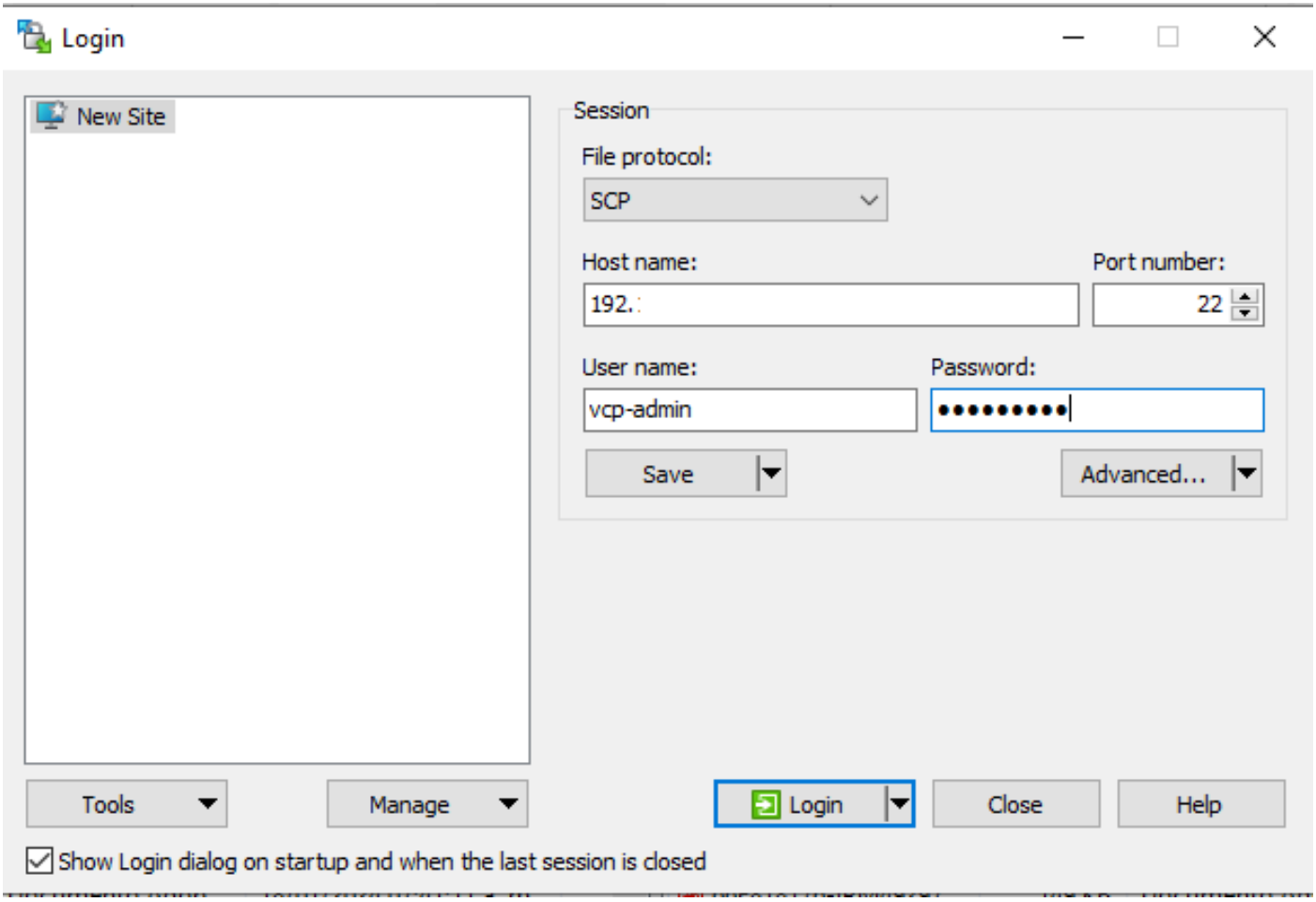
Step 1. SSH into the HyperFlex Remote Plugin Virtual appliance, login and run the command hx-plugin-supportbundle, this generates a tar file with vCenter logs and Hyperflex Remote Plugin appliance logs



Support Bundle Generation

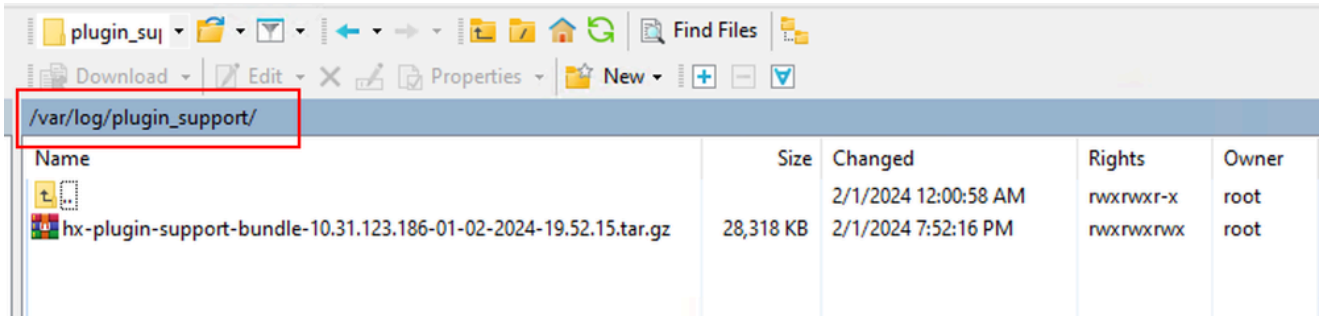
Step 2. Establish an SCP connection to the VM Remote Plugin, for this you can use software like WinSCP

- File Protocol: SCP
- Host name: [[ip.address.remotepluginappliance]
- Port number: 22
- Username: vcp-admin
- Password: [your-configured-password]



SCP Connection parameters

Step 3. Navigate to the **/var/log/plugin_support/** directory and download the support bundle file.



Support bundle location

Collect logs manually from the Cisco HyperFlex Remote Plugin Appliance

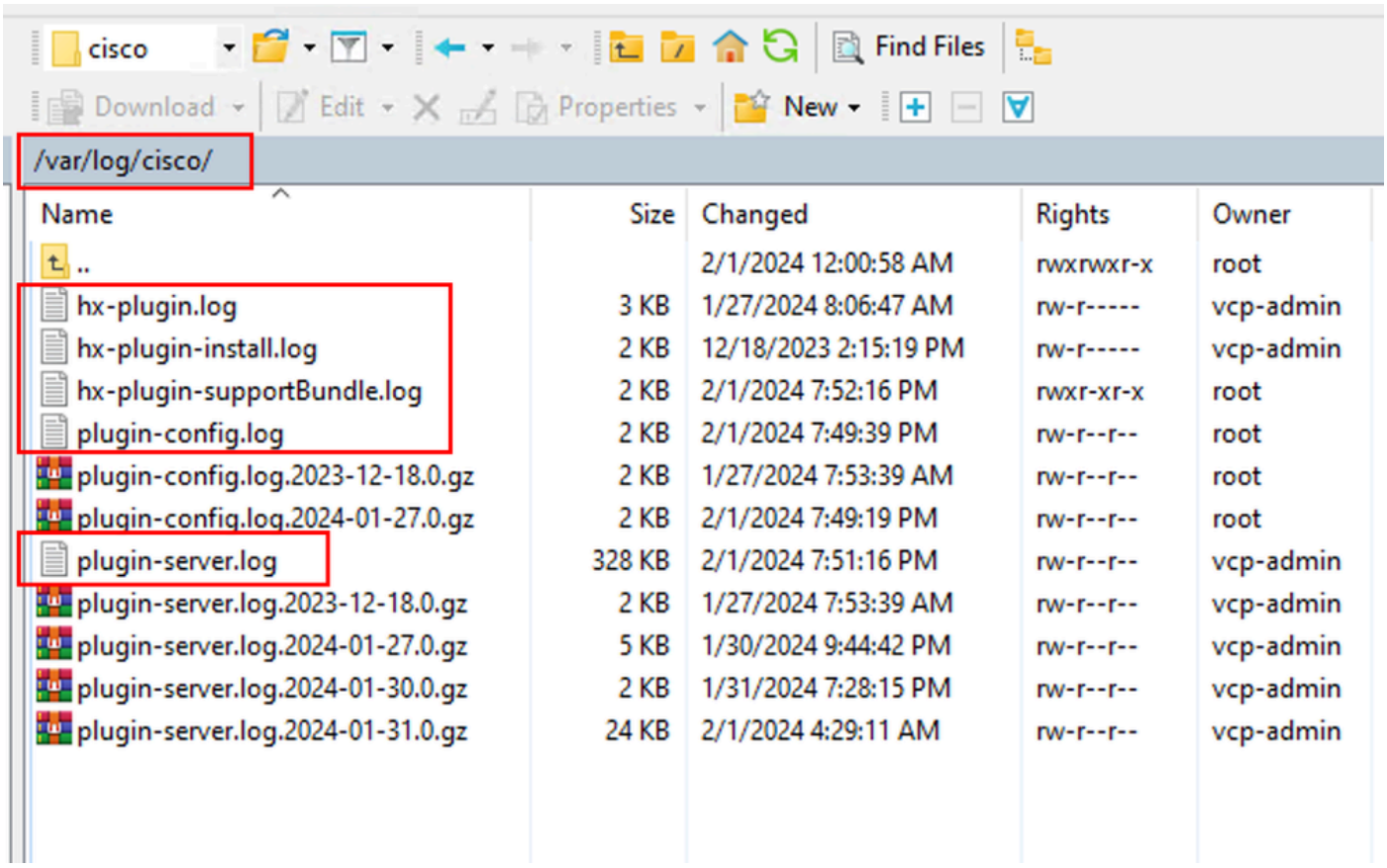
If you are not able to register any vCenter in the appliance, you cannot generate a Support Bundle. A manual collection of the log files is needed.

Step 1. Establish an SCP connection to the VM Remote Plugin, for this you can use software like WinSCP

- File Protocol: SCP
- Host name: [ip.address.remotepluginappliance]
- Port number: 22
- Username: vcp-admin
- Password: [your-configured-password]

Step 2. Once you login you automatically find yourself in the path **/home/vcp-admin**, go to the root directory and then to the indicated paths to collect these log files:

- /var/log/auth.log
- /var/log/audit/audit.log
- /var/log/cisco/hx-plugin.log
- /var/log/cisco/hx-plugin-install.log
- /var/log/cisco/plugin-config.log
- /var/log/cisco/plugin-server.log



Cisco logs location

Step 3. Upload the log files to your current Service Request. The steps to upload the files to the case are in the link "Customer File Uploads to Cisco Technical Assistance Center" available in the Related information section.

Related Information

Customer File Uploads to Cisco Technical Assistance Center

Support Case Manager

Cisco HyperFlex Data Platform Administration Guide, Release 5.5