Automation for HPE SimpliVity and Citrix Cloud v1.1

Contents

Introduction

Citrix® cloud connector acts as an interface between the Citrix cloud and resource location. This helps in managing the hosts and virtual desktops from the cloud by removing the need for complex solutions and networking. Each resource location is recommended to have more than one cloud connector to provide high availability (HA). However, it is laborious to configure or deconfigure cloud connector whenever a resource location is created or deleted.

This document is a step-by-step guide to automate the installation of cloud connectors using **HPE SimpliVity Citrix Plug-in** by deploying virtual machines (VMs), adding them to Active Directory (AD), downloading Citrix cloud connector and installing it.

Target audience: Software architects, solution engineers and end users using Hyper Converged infrastructure for virtual desktops. It is recommended to have a brief understanding on HPE SimpliVity and Citrix cloud.

Document purpose: The purpose of this document is to provide a step-by-step process to use HPE SimpliVity Citrix cloud connector for Microsoft® Hyper-V and VMware vSphere®.

Release notes

This is the first version of HPE SimpliVity plug-in for Citrix cloud which installs and configures Citrix cloud connector. Major aspects of this plug-in that are covered in this release are:

- Proxy implementation is a preview feature (beta) in version 1.0
- Secure SSL/HTTPS enabled on HPE SimpliVity OmniCube Virtual Controller (OVC) IP address to connect using REST APIs
- DHCP Server and static IP is supported for assignment of IPs to Cloud Connector VMs
- VM template is tested on Windows® 2016 Operating System

Hyper-V/SCVMM

Few caveats that are specific to SCVMM/Hyper-V plug-in

- SCVMM templates are not stored in HPE SimpliVity and base VM satisfying the template requirements are used to perform HPE SimpliVity clone
- Hosts in HPE SimpliVity clone are automatically selected during deployment. Live migration should be working in the SCVMM setup to migrate VM to the user specified host. If live migration is not supported, VM placement is not guaranteed to reside on the specified host
- SCVMM should run on default port 8100

Requirements

In order to use this plug-in, there are a few pre requisites that need to be configured prior to running this.

Citrix cloud requirements

In order to access and manage Citrix cloud remotely, client id and key should be created. The key is used along with the organization to deploy cloud connector in a resource location.

Refer the following link on how to create client id and key. docs.citrix.com/en-us/citrix-cloud/citrix-cloud-management/identity-access-management.html.

If the given resource location is not present, this application creates a new resource location in the Citrix Customer (Organization) and tags cloud connector to the new resource location. For existing resource location, cloud connector is automatically tagged to it.

VM template requirements

Following requirements should be taken care while generating VM template for cloud connector installation.

1. It is recommended to use Windows Server® 2016 to create a template that is used for connecting Citrix cloud and resource location.
2. Windows remote management feature should be enabled to access the virtual machines from SCVMM plug-in.
3. The template should not join the AD domain. The plug-in creates the VM and joins to AD.
4. VMware Tools™ should be installed in it.
5. User can use static IP to assign to the VM(s) created by plug-in.
6. IP address of VM(s) created by the plug-in can also be assigned from the DHCP server. Please ensure the correct network is chosen for DHCP access.

Versions

Microsoft Hyper-V

Citrix cloud connector installation on HPE SimpliVity storage using Microsoft SCVMM plug-in is tested on the following versions:

Product	Component	Version
HPE SimpliVity	HPE OmniStack	3.7
	API Version	1.8
Microsoft SCVMM	Client	Windows 2016
	Build	4.0.2314.0

VMware vSphere

Citrix cloud connector installation on HPE SimpliVity storage using VMware vSphere plug-in is tested on the following versions:

Product	Component	Version
HPE SimpliVity	HPE OmniStack	3.7
	API Version	1.8
VMware vSphere	Client	Windows 2016
	Build	Version 6.5.0, Build 4944578

Microsoft Hyper-V—Citrix Cloud Connector installation

Registration

Download the HPE SimpliVity Citrix Cloud Connector plug-in (**connector plug-in**) and import the Add-In to System Center Virtual Machine Manager (SCVMM).

- Extract the plug-in to **C:\Users\Public**

- Log in to SCVMM Manager and upload the "**CitrixSimplivity.zip**" Add-in from the path **C:\Users\Public\HpeCitrixPlugin**

- Close and reopen the SCVMM Management console to reflect to access the new plug-in
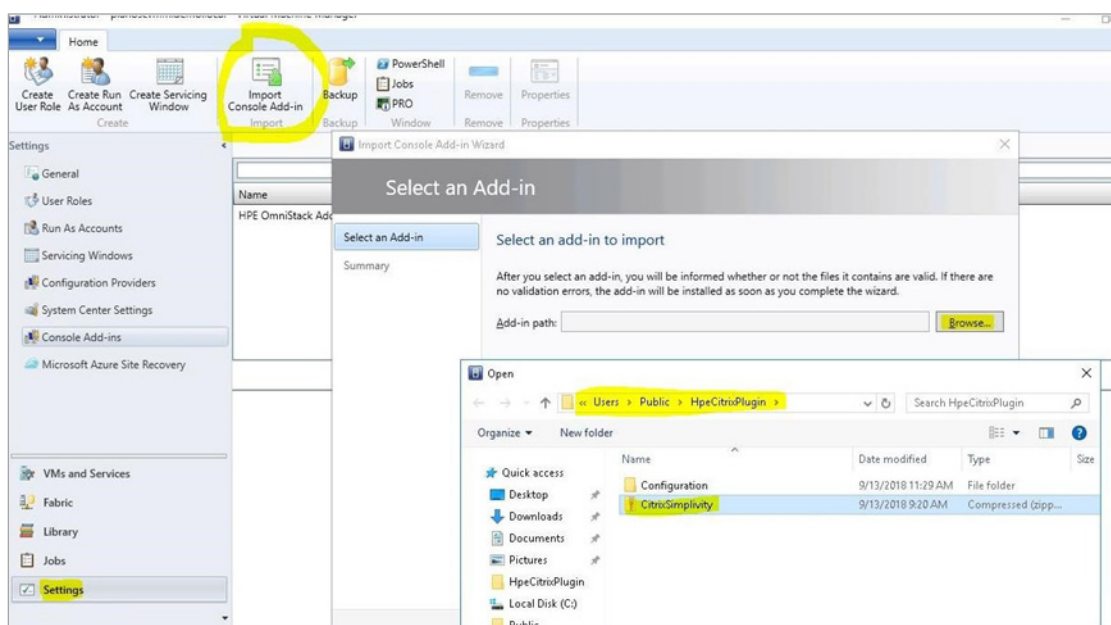
Figure 1. Add-in import

Operations

The plug-in can perform different operations to configure and deconfigure cloud connector virtual machines. If the plug-in is successfully installed "SimpliVity-Citrix Connector" application is visible in the **VMs and Services** of SCVMM as shown in the following figure:
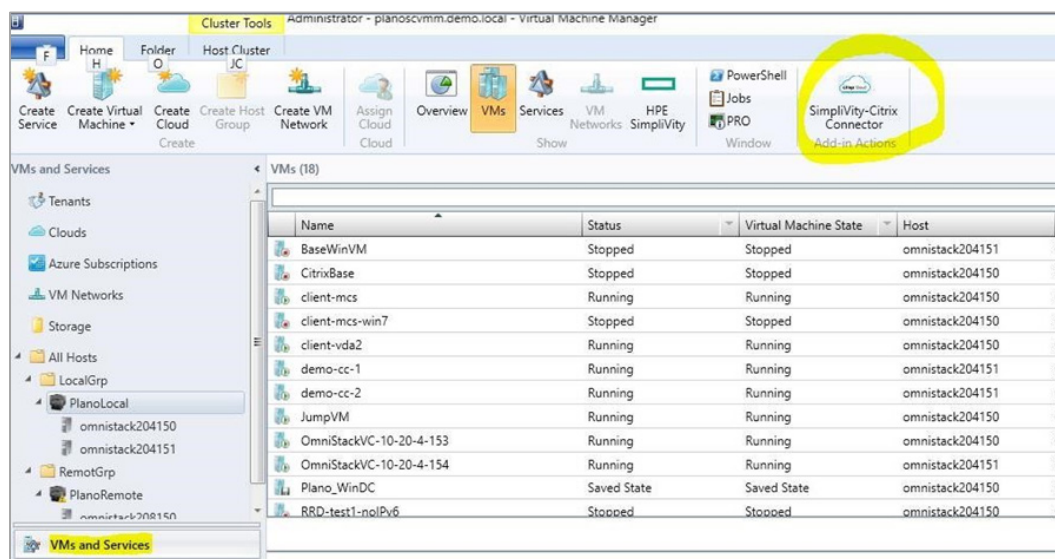

Figure 2. HPE SimpliVity-Citrix Connector

The list of supported operations using this plug-in is

- **Plug(in):** Deploy Citrix Cloud Connector

- **Plug(out):** Remove Citrix Cloud Connector

- **Proxy:** Proxy information to access internet

- **Log:** Logging output of the installation and uninstallation process

- **Exit:** Exit the Citrix Connector app
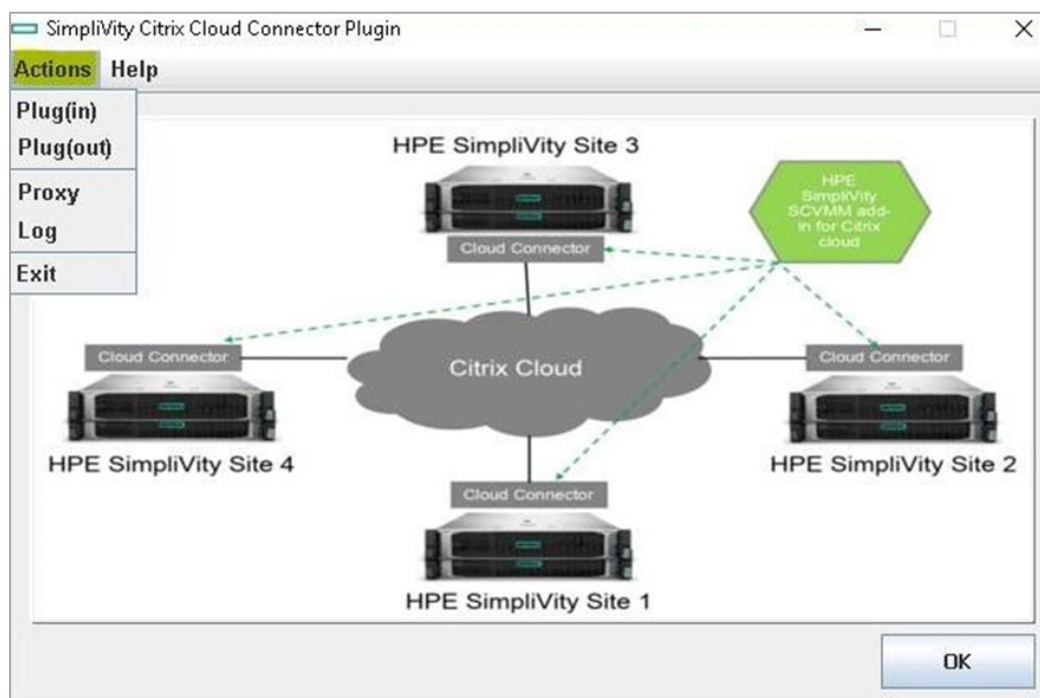
Figure 3. HPE SimpliVity Citrix Cloud Connector Plug-in

The details of OmniStack Virtual Controller and SCVMM are requested when the **Plug(in)** or **Plug(out)** is selected for the first time.

Figure 4. Plug-in node information

Note

• The user name and password for the OmniStack Virtual Controller and SCVMM Management are the same

• Basic validation of SCVMM and OVC are implemented to check invalid login access

Configuration

Plug-in option is used to deploy virtual machines, join the VMs to Active Directory (AD) domain, downloads and installs Citrix cloud connector for a resource location. Provide these details of AD domain, Citrix Identity access, and HPE SimpliVity and Microsoft SCVMM information to deploy the virtual machines.

Figure 5. HPE SimpliVity Citrix Cloud Connector Plug-in Configuration screen

Note

• Kindly check the prerequisites section for more information of Citrix cloud options

• There is a check box "Include VMs" to display the HPE SimpliVity virtual machines along with HPE SimpliVity template

Ideally, there will not be any HPE SimpliVity templates because SCVMM uses Library server (non-HPE SimpliVity node) to store templates. Performing HPE SimpliVity clone on templates created on non-HPE SimpliVity node will not work. To overcome this problem, include VM check box is provided to deploy Citrix cloud connector VMs from the existing virtual machines.

The virtual machine used for image template should support all the prerequisites required for the template.

Figure 6.1. HPE SimpliVity Citrix Cloud Connector Plug-in—Virtual Machine Information

Add the details of Virtual Machine such as name, credentials, host, networking type and so on to deploy cloud connector VM. Use **Add VM** button to deploy multiple VMs with this plug-in.

Note
The user name and password of the VM should be exactly the same as the selected image template. These credentials are used for initial login and VM to AD.

Network options
There are two networking options available to configure virtual machines.

If the network type is

- **DHCP:** Dynamic IP address from the DHCP scope is automatically assigned to the cloud connector virtual machine
- **Static:** Dedicated IP address mentioned in the IP Address section will be assigned to the cloud connector virtual machine

In order to assign static IP address, logical networks should be created in SCVMM with address pool having starting and ending IP range as shown in Figure 6.2. The dedicated IP address (static) for the virtual machine should be assigned from this IP pool only. DNS and gateway configured in the IP address pool are automatically assigned to virtual machine.
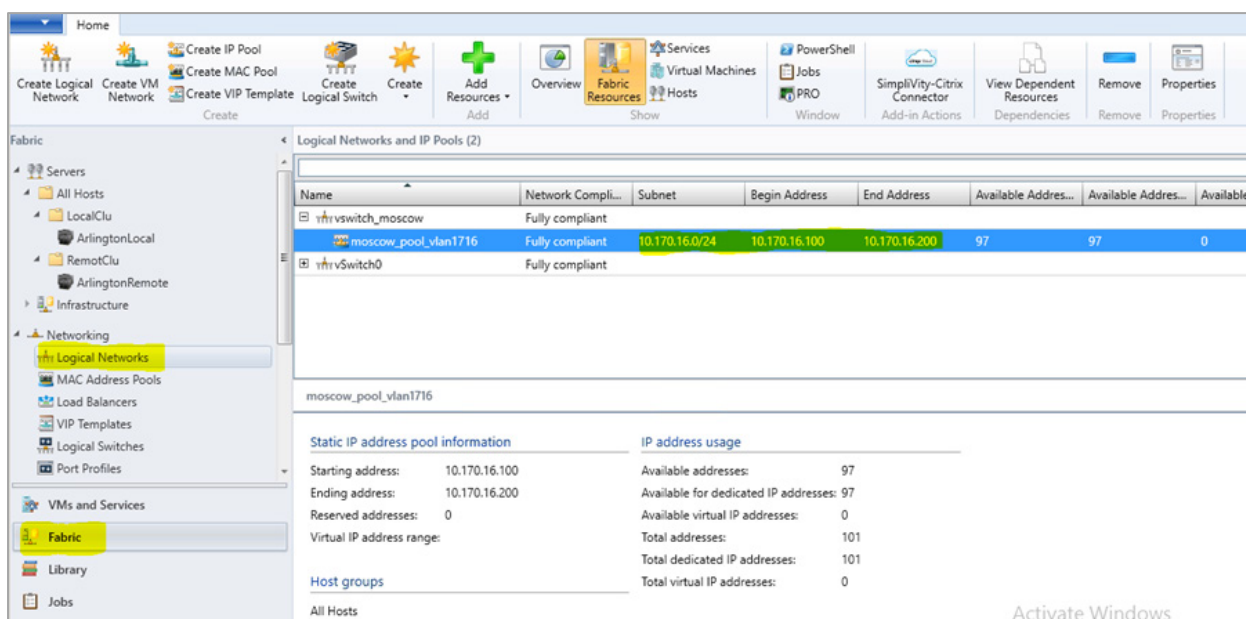
Figure 6.2. HPE SimpliVity Citrix Cloud Connector Plug-in—Static IP Pools in Logical Network

After adding all the virtual machines, click on **Configure** button to start the installation and deployment of Citrix cloud connector.
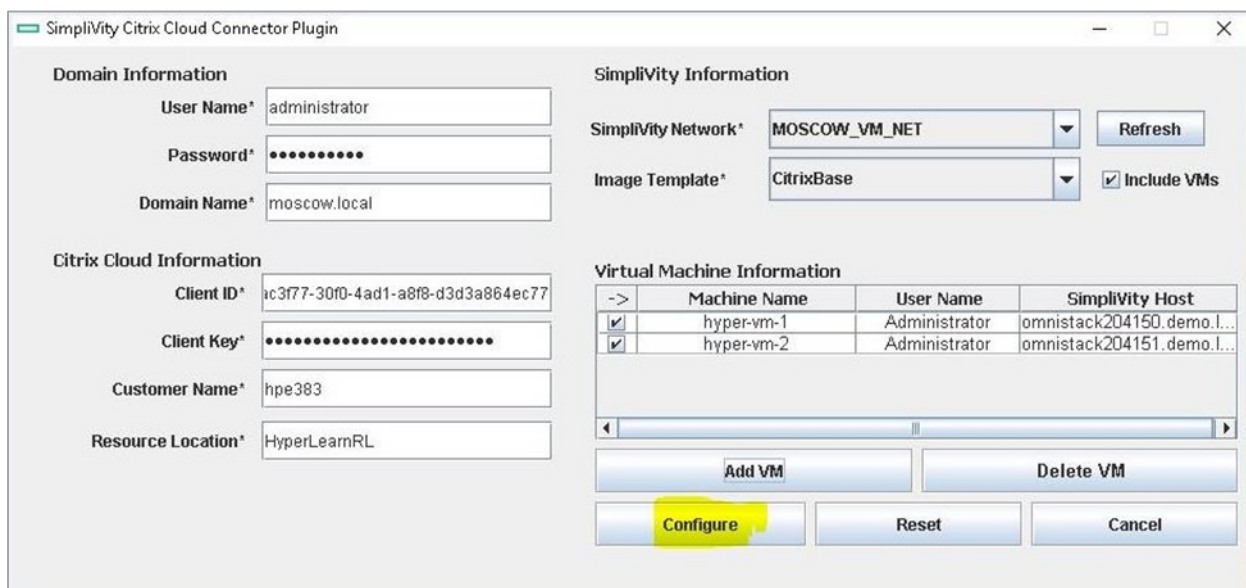

Figure 6.3. HPE SimpliVity Citrix Cloud Connector - Configuration with VM Information

If the installation is successful, all the VMs are deployed and Citrix cloud connector will be installed successfully.
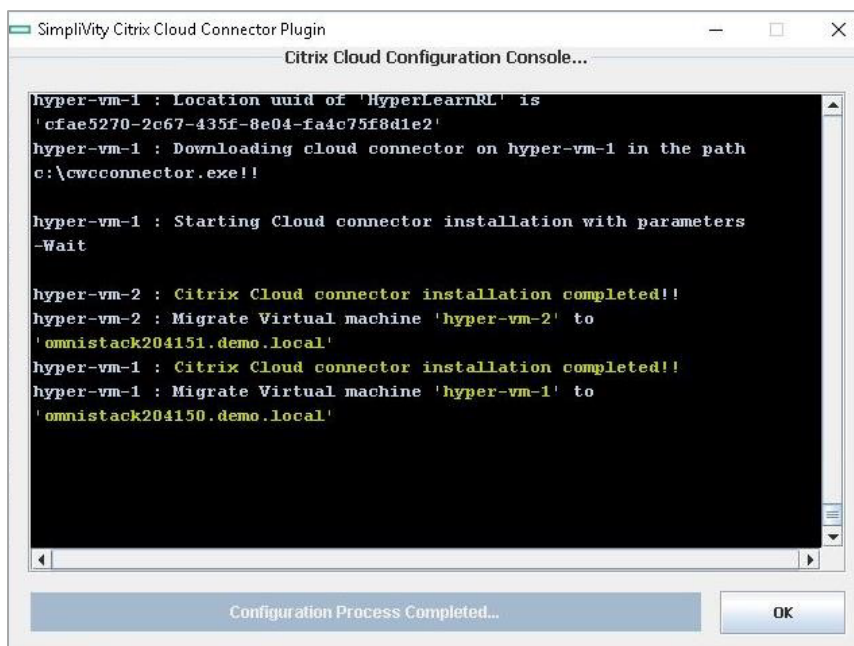
Figure 7. HPE SimpliVity Citrix Cloud Connector Installation

The cloud connector VMs are also visible in the resource location of Citrix cloud portal.

Figure 8. Citrix cloud portal

Deconfigure/Plug(Out)

Using this plug-in, the cloud connector of a resource location can be removed, unjoin from domain and delete the virtual machines from SCVMM. To start the deconfigure, select the Plug(Out) option in Actions.

- Select the cloud connector VM to uninstall

- Enter the password of AD Domain and Virtual Machine and click on Update (other fields are pre populated)

- Select Deconfigure option to complete the uninstallation

Figure 9. HPE SimpliVity Citrix Cloud Connector Plug-in—Deconfigure

After successful plug out, the selected VM is removed from the Citrix cloud of a resource location.

Figure 10. Successful plug out screen

Logs

The execution and failures of this plug-in are logged in a file and is visible from the application. Select **Logs** in the Action section to display all the information. A filter **Error Log** can be used to display only the error logs.

Figure 11. HPE SimpliVity Citrix Cloud Connector Plug-in—Log screen

Proxy

If the data center requires proxy to connect to internet, a proxy option has be enabled to access Citrix cloud, download and install Citrix cloud connector of a resource location.

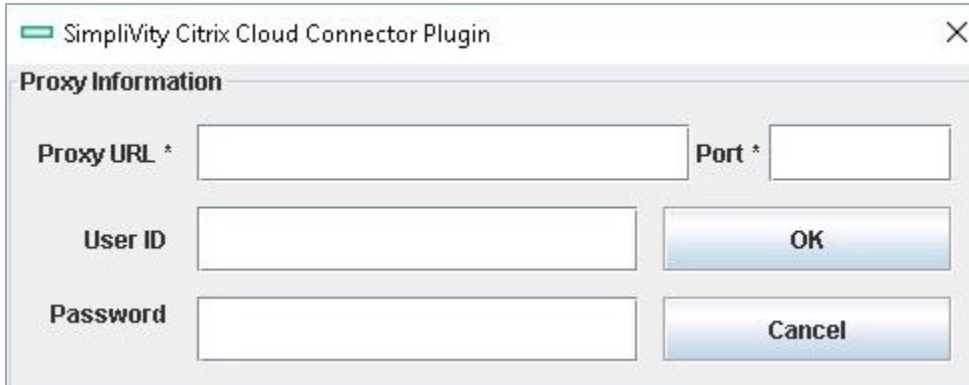Skip this section, if the environment does not require any proxy to connect to internet.

Figure 12. HPE SimpliVity Citrix Cloud Connector Plug-in—Proxy information

VMware vSphere—Citrix Cloud Connector plug-in

Prerequisites

1. This plug-in supports VMware® 6.5 flex.

2. Configuration file (input file) need to place under "**C:\Users\Public**" path.

3. One should create a VM template with external network connectivity.

4. Install VMware PowerCLI module on VMware vCenter® if it's not installed. Use

    "**Install-Module -Name VMWare.PowerCLI**" command to install.

5. Ignore the PowerCLI Configuration invalid certification action for all the users.

    Use "**Set-PowerCLIConfiguration -InvalidCertificateAction Ignore -Scope AllUsers**" Command to ignore.

Installation prerequisites

1. Java (>1.6 version) has to be installed.

2. Create new login credentials for VMware portal and download vsphere-client-sdk-6.5.04602587.

3. To register/unregister the plug-in follow the instruction from

    "**Getting_Started_with_HTML_Client_SDK**" pdf file

How to register/integrate plug-in to VMware vCenter Server®

The SDK includes a tool to help you register your plug-in as a vCenter Server extension which is available in "**vsphere-client-sdk-6.5.0\vsphere-client-sdk\html-client-sdk\tools\vCenter plugin registration\prebuilt**".

The same tool can be used to register, unregister, and check whether plug-in is registered or not.

To register Plug-in:

```
• extension-registration.bat -url vCenterIP/sdk -username {username}

  -password {password} -action registerPlugin -key com.vmware.simplivity.citrixplugin

  -version 1.0.0 -name simplivitycitrixplugin -show true -pluginUrl
  location/com.vmware.simplivity.citrixplugin-1.0.0.zip

   -serverThumbprint {serverthumbprint_value}
```

- Go to services and restart "VMware vCenter Configuration Services" and wait for the Services to come up.
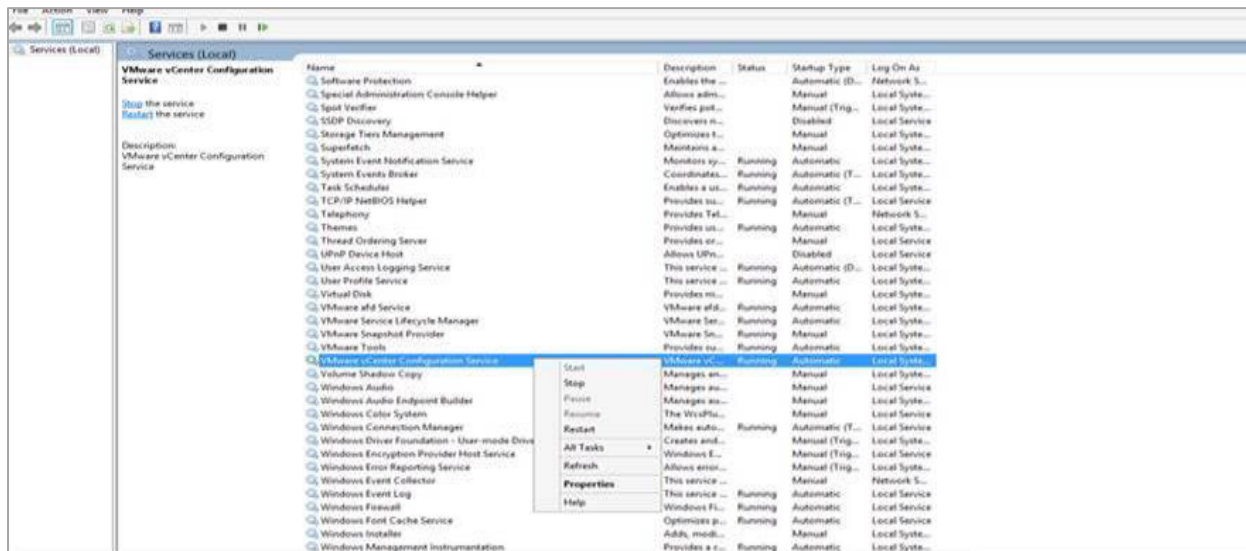

Figure 13. Restarting the vCenter services

Note
1. Server thumbprint should be taken from the HTTPS web server machine where the package is kept. Refer vmware.com/support/vcm/doc/help/vcm-57/Content/Virt/Virt_GS_vSphere_Task_SSLTprint.htm for the procedure to obtain server thumbprint.

2. Using an http plug-in URL instead of https is ok for development but not recommended for production. It is not secure and requires including the flag allowHttp=true in vSphere Client's webclient.properties.

To check Plug-in is registered:
```
extension-registration.bat -url vCenterIP/sdk -username {username} -password
{password} -action isPluginRegistered -key com.vmware.simplivity.citrixplugin
```

To unregister the Plug-in:
- ```
  extension-registration.bat -url vCenterIP/sdk -username {username}
  -password {password} -action unregisterPlugin
  -key com.vmware.simplivity.citrixplugin
  ```

- Delete the Citrix plug-in folder before restarting the services from

  "**C:\Programdata\VMWare\vCenterServer\cfg\vsphere-ui\vc-packages\vsphere-client-serenity**"

Notes
- You can review all vCenter extensions with the MOB interface at "vcenterIP/mob/?moid=extensionmanager"

- To update your plug-in extension info you must first unregister it. If you try to register the same plug-in twice you will get the error:
  A specified parameter was not correct: extension key

- For more information, refer the "**Getting_Started_with_HTML_Client_SDK**" document present in vSphere client SDK (6.5)

How to use

Go to home page, click on "**SimpliVity Citrix**" plug-in icon.
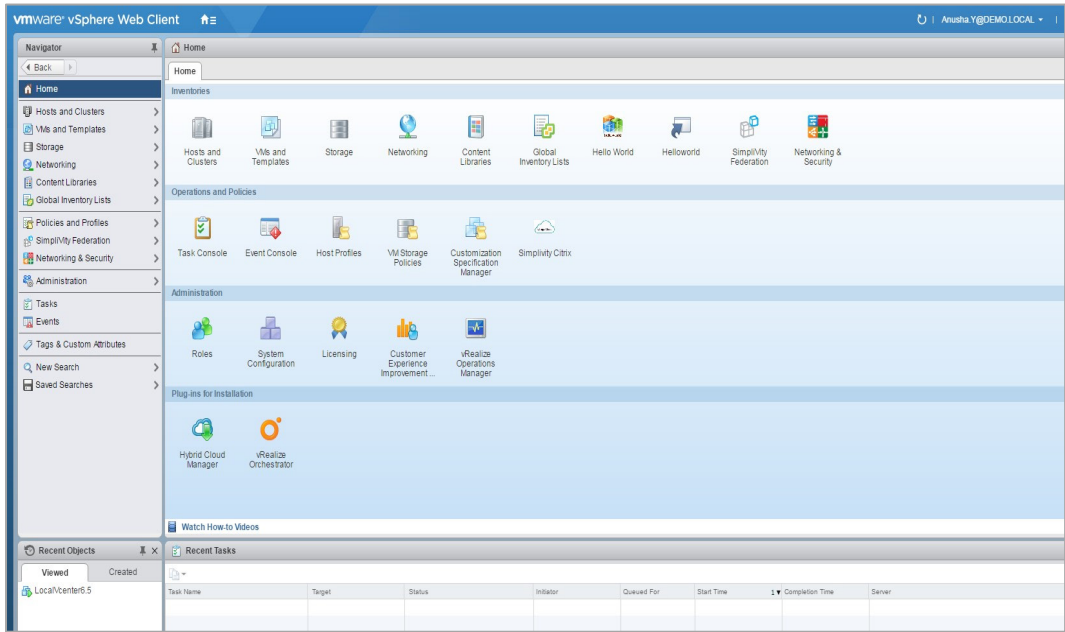
Figure 14. HPE SimpliVity Citrix Plug-in

Main page:

When the plug-in is clicked, it navigates to the main page.

If the data center requires proxy to connect to internet, a proxy option has be enabled to access Citrix cloud, download and install Citrix cloud connector of a resource location.

Skip this section, if the environment does not require any proxy to connect to internet.

Note

Proxy information is a beta feature in v1.0.

Provide the OVC details which are mandatory.
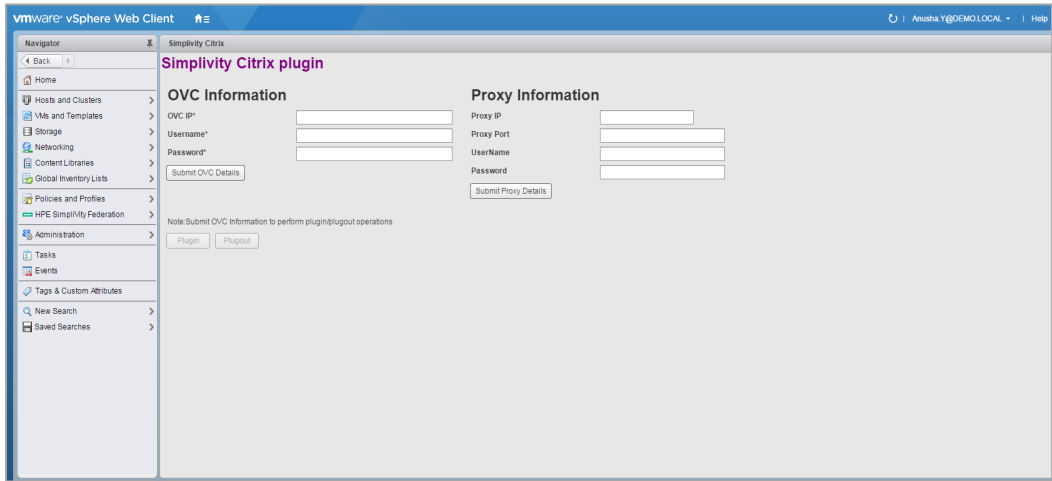
Figure 15. Main page of HPE Simplivity Citrix Plugin

After providing the OVC details the "plugin" and "plugout" buttons will be enabled.

Figure 16. HPE SimpliVity Citrix plug-in—Proxy information

Click on "Plugin" button in the page.

Configure/Plug–in

Figure 17. HPE SimpliVity Citrix Plug-in Configuration information screen

1. Provide the necessary details such as Domain information Citrix information, HPE SimpliVity information.
2. Add the VM details which needs to created.

> **Note**
>
> Template's user name and password and VM's user name and password have to be same.

3. Select the host where you want to create the VM.
4. If static IP is selected, make sure that the IP entered is free.
5. Once you provide all the information click on "**Configure**" button.

The Cloud Connector VMs are visible under resource location of the Citrix cloud portal once the configuration is complete.
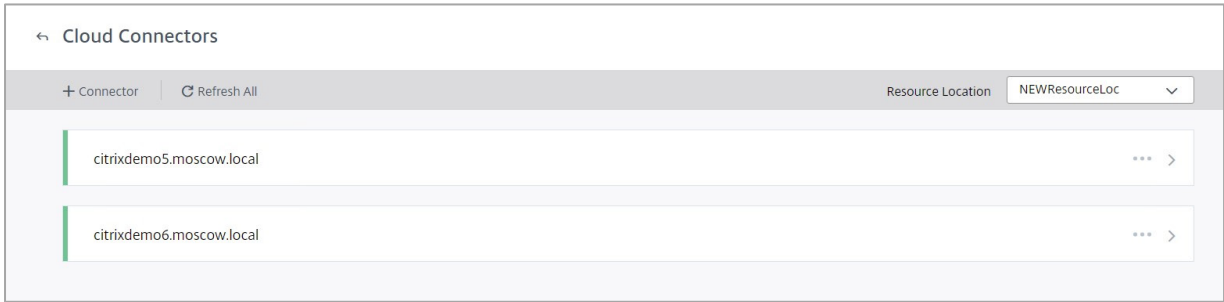
Figure 18. HPE SimpliVity Citrix Cloud Connectors

Deconfigure/Plug-out

From the main page click on the "**Plugout**" link to navigate to Deconfigure page.

1. Table will list the all the VMs which were created using this plug-in select the VM which you wanted to deconfigure.
2. Provide user name and password for the VM which you wanted to deconfigure.
3. Provide password for the domain under the Domain Information.
4. Once the VM is selected click on Deconfigure button.
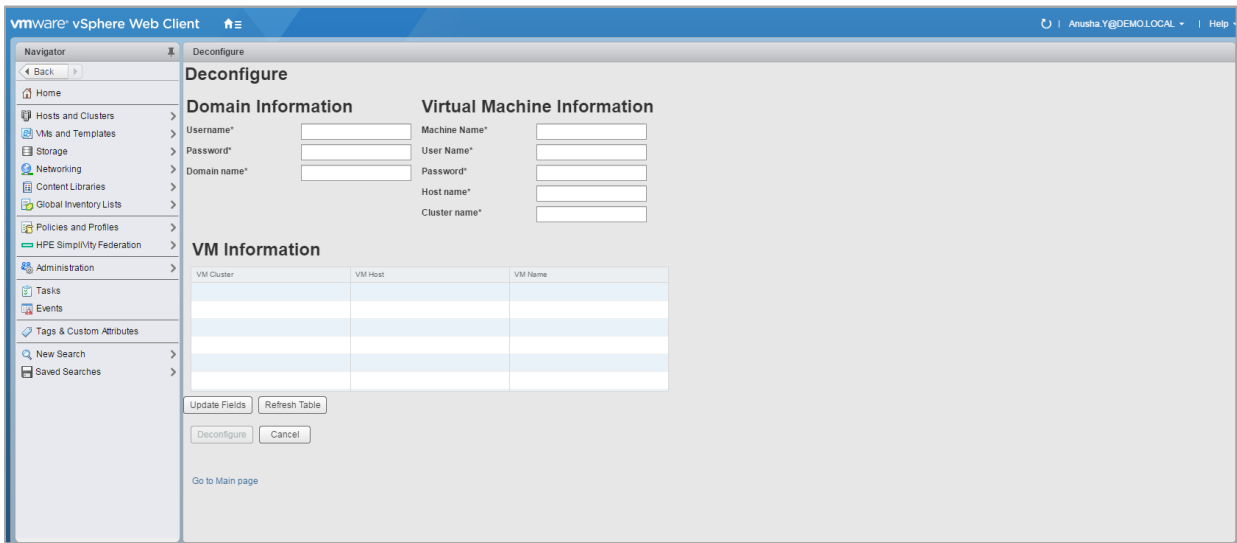
Figure 19. HPE SimpliVity Citrix Deconfiguration

After successful deconfiguration, the selected VM is removed from the Citrix cloud of a resource location.
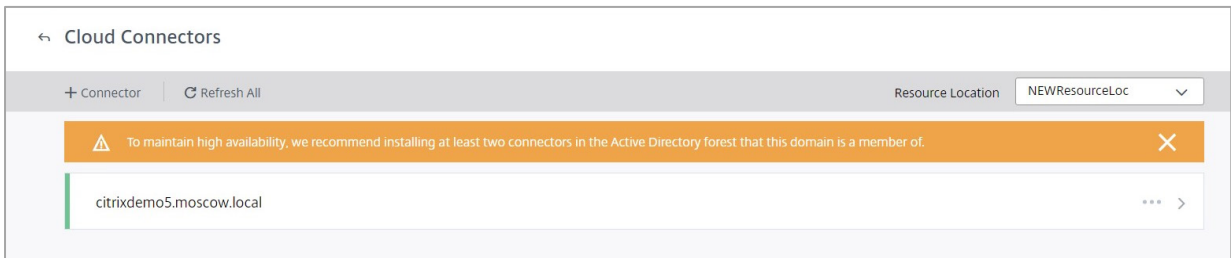
Figure 20. HPE SimpliVity Citrix successful deconfiguration

Log file path

C:\\ProgramData\\VMware\\vCenterServer\\logs\\vsphere-client\\logs\\CitrixPluginLog.log

For server logs:

C:\\ProgramData\\VMware\\vCenterServer\\logs\\vsphere-client\\logs\\vsphere_client_virgo.log

Glossary

HPE—Hewlett Packard Enterprise

SCVMM—System Center Virtual Machine Manager

OVC—OmniStack Virtual Controller

AD—Windows Active Directory

VM—Virtual Machine

For more information

HPE Converged Infrastructure Library

hpe.com/info/convergedinfrastructure

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