

Troubleshoot HyperFlex Plugin Issues with VMWare vCenter

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Introduction

This document describes the steps to troubleshoot the HyperFlex Plugin issue that occurs after the new installation/deployment or upgrade of a HyperFlex cluster to version 3.0(1c).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco HyperFlex
- VMWare vCenter

Components Used

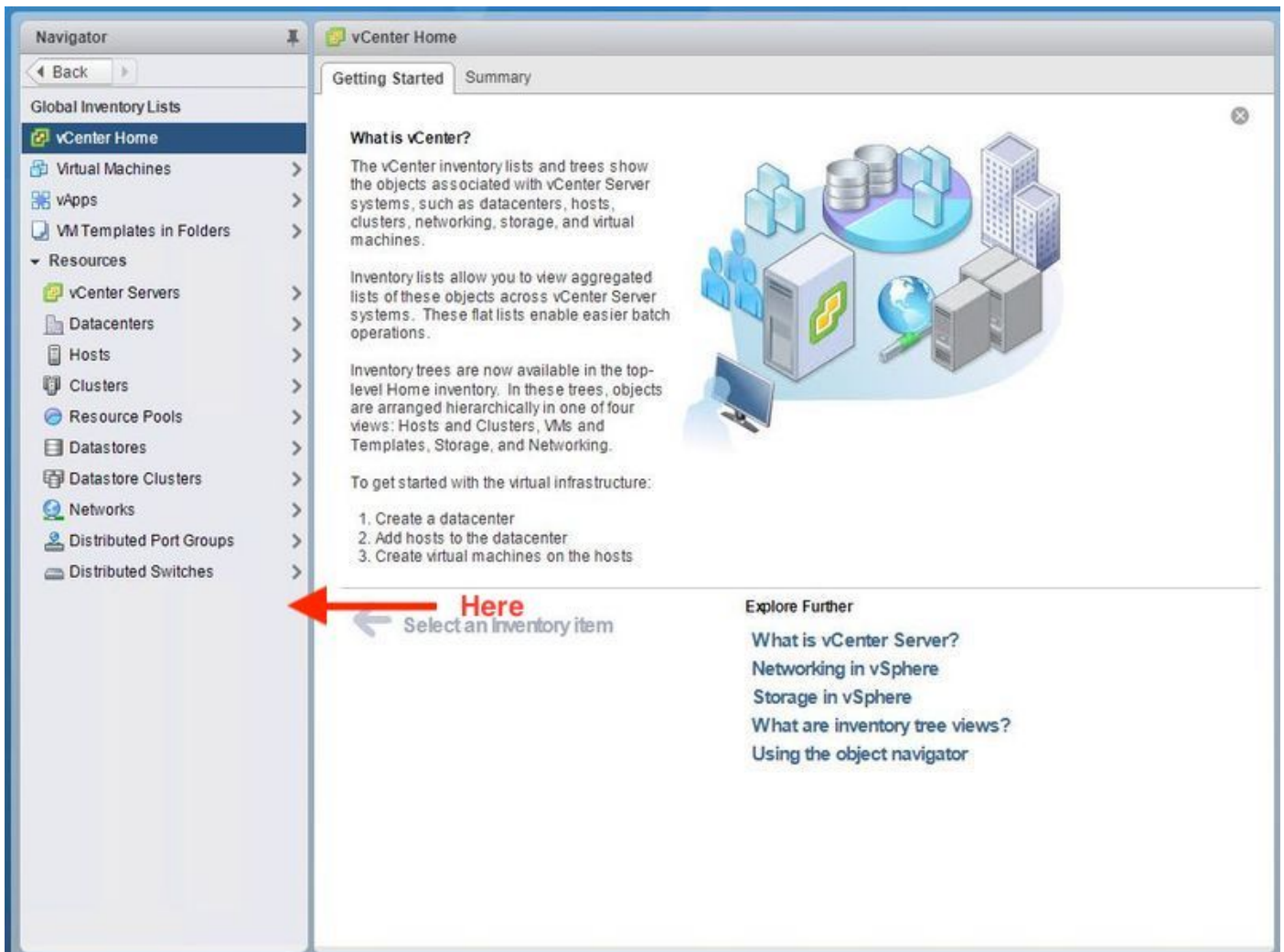
The information in this document is based on these software and hardware versions:

- HyperFlex version 3.0(1c)
- UCS C240M5
- VMWare vCenter 6.0 or 6.5

The information 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.

Troubleshooting Steps

Step 1. Verify that you do not see the HyperFlex plugin on the vCenter Web Client. Navigate to **Home > Global Inventory List** and check if the plugin is visible in vCenter. The plugin should be just below **Distributed Switches** as shown in the image.



Step 2. Ensure that the vCenter login user has the full admin privilege.

Step 3. Check to see if ping from vCenter to HX Cluster Management IP worked (CMIP).

Step 4. Check if the ping to CMIP was intermittent in order to isolate duplicate IP issue.

Step 5. Verify that the plugin was installed via the vCenter Manage Object Browser (MOB). Find out the cluster domain ID before you perform this step. In order to collect the cluster domain ID, Secure Shell (SSH) to the CMIP and run this command **D"stcli cluster info | grep -i domain"** as shown in the image.

```
root@hx-8-scv-02:~# stcli cluster info | grep domain
  id: domain-c122
  vCenterClusterId: domain-c122
root@hx-8-scv-02:~#
```

Step 6. In this case, as you can see, the domain ID is **c122**. Now, navigate to the vCenter MOB and check if the extension for this plugin is present. In order to do so, log in to **https://<vCenter IP or FQDN>/mob**.

Navigate to **content>extensionManager** under the properties section and select (**more..**). At the bottom of the list you will see two springpath extensions. One of which includes the domain ID

collected before.

Home

Managed Object Type: **ManagedObjectReference:ExtensionManager**
Managed Object ID: **ExtensionManager**

Properties

NAME	TYPE	VALUE
extensionList	Extension[]	extensionList["com.vmware.vim.sms"] Extension extensionList["com.vmware.vim.vsm"] Extension extensionList["VirtualCenter"] Extension extensionList["com.vmware.vim.stats.report"] Extension extensionList["com.vmware.vim.sps"] Extension extensionList["com.vmware.vim.vcha"] Extension extensionList["hostdiag"] Extension extensionList["com.vmware.vim.ls"] Extension extensionList["com.vmware.vim.eam"] Extension extensionList["com.vmware.rbd"] Extension extensionList["com.vmware.ovf"] Extension extensionList["com.vmware.vmcam"] Extension extensionList["com.vmware.cl"] Extension extensionList["com.vmware.vsan.health"] Extension extensionList["com.vmware.vcenter.iso"] Extension extensionList["com.vmware.vcIntegrity"] Extension extensionList["com.springpath.sysmgmt"] Extension extensionList["com.springpath.sysmgmt.domain-c122"] Extension (less...)

Step 7. In order to validate further that the HyperFlex plugin was installed on vCenter Web Client, navigate to **Home>Administration>Solutions>Client Plug-Ins**.

If you do not see the HyperFlex (Springpath Plugin) listed on the table, click under **Check for New Plug-ins**. This should populate the Springpath Plugin if it is present. This will take a couple of minutes.

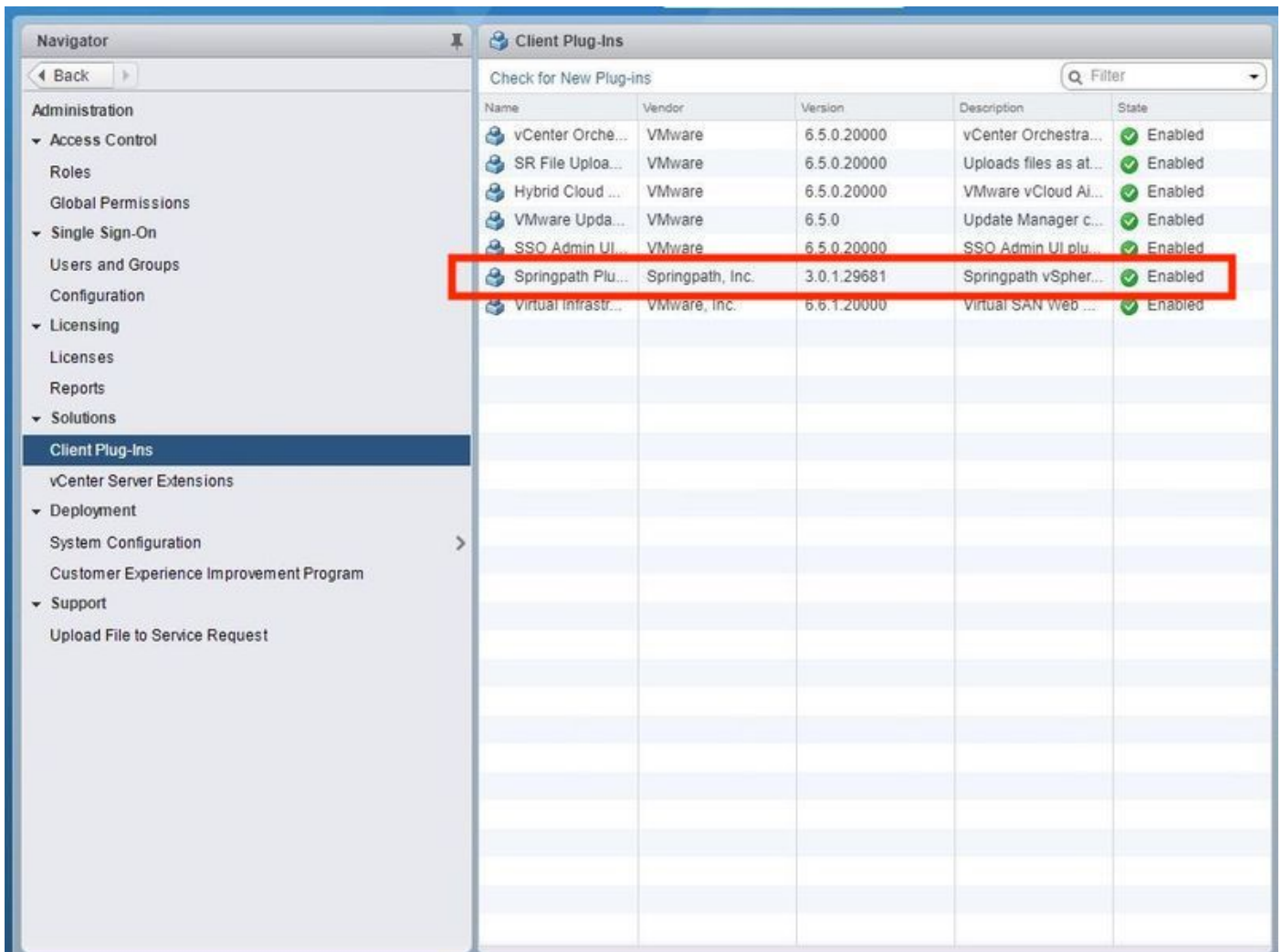
Before you check for new plug-ins:

Client Plug-Ins

Check for New Plug-ins

Name	Vendor	Version	Description	State
vCenter Orchestrat...	VMware	6.5.0.20000	vCenter Orchestrator pl...	Enabled
SR File Upload Plu...	VMware	6.5.0.20000	Uploads files as attach...	Enabled
Hybrid Cloud Mgr P...	VMware	6.5.0.20000	VMware vCloud Air Hy...	Enabled
VMware Update M...	VMware	6.5.0	Update Manager client	Enabled
SSO Admin UI plugin	VMware	6.5.0.20000	SSO Admin UI plugin	Enabled
Virtual Infrastructure	VMware, Inc.	6.6.1.20000	Virtual SAN Web Client...	Enabled

After you check for new plug-ins:



Step 8. Restart the vSphere Web Client Service (the **vsphere-client service**).

vCenter Server on Windows

1. Open Server Manager on the Windows system on which vCenter Server runs.
2. Navigate to **Configuration > Services**.
3. Select **VMware vSphere Web Client** and click **Restart**.

vCenter Server Appliance

1. Use SSH to log in to the vCenter Server Appliance as root.
2. Stop the vSphere Web Client service and run one of these commands.vCenter Server 6.0:**service vsphere-client stop**vCenter Server 6.5:**service-control --stop vsphere-client**
3. Restart the vSphere Web Client service with the help of these commands.vCenter Server 6.0:**service vsphere-client start**vCenter Server 6.5:**service-control --start vsphere-client**

Command outputs from lab vCenter Server Appliance:

```

Command> service-control --stop vsphere-client
Perform stop operation. vmon_profile=None, svc_names=['vsphere-client'], include_coreossvcs=False, include_leafossvcs=False
Successfully stopped service vsphere-client
Command> service-control --start vsphere-client
Perform start operation. vmon_profile=None, svc_names=['vsphere-client'], include_coreossvcs=False, include_leafossvcs=False
2018-08-23T22:02:56.939Z Service vsphere-client state STOPPED
Successfully started service vsphere-client

```

Step 9. Delete the **extensionList ["com.springpath.sysmgmt"] mob** from vCenter.

Note: Ensure that you delete the unused domain ID only. If you delete the incorrect domain-id, cluster will go offline. Collect the correct domain-id from Step 5. Also, you can delete the cluster from vCenter **Hosts & Clusters** view, delete the mob entry and recreate the cluster in vCenter and finally re-register the cluster. In case you have a doubt, open a TAC SR before you proceed.

STEP-1: Copy the string in the circle

Data Object Type: Extension
Parent Managed Object ID: **ExtensionManager**
Property Path: **extensionList["com.springpath.sysmgmt"]**

NAME	TYPE	VALUE
client	ExtensionClientInfo[]	client
company	string	"Springpath, Inc."
description	Description	description
eventList	ExtensionEventTypeInfo[]	eventList
extendedProductInfo	ExtExtendedProductInfo	extendedProductInfo
faultList	ExtensionFaultTypeInfo[]	Unset
healthInfo	ExtensionHealthInfo	Unset
key	string	com.springpath.sysmgmt
lastHeartbeatTime	dateTime	"2016-11-09T14:14:25.439-08:00"
managedEntityInfo	ExtManagedEntityInfo[]	Unset
ovfConsumerInfo	ExtensionOvfConsumerInfo	Unset
privilegeList	ExtensionPrivilegeInfo[]	Unset
resourceList	ExtensionResourceInfo[]	Unset
server	ExtensionServerInfo	
shownInSolutionManager	boolean	
solutionManagerInfo	ExtSolutionManagerInfo	
subjectName	string	
taskList	ExtensionTaskInfo[]	
type	string	
version	string	

Managed Object Type: ManagedObjectReference:ExtensionManager
Managed Object ID: **ExtensionManager**

NAME	TYPE	VALUE
extensionList	Extension[]	extensionList["com.vmware.vim.inventoryservice"] Extension extensionList["com.vmware.vim.sms"] Extension extensionList["com.vmware.vim.vsm"] Extension extensionList["VirtualCenter"] Extension extensionList["com.vmware.vim.stats.report"] Extension (more...)

Methods

RETURN TYPE	NAME
Extension	FindExtension
string	GetPublicKey
ExtensionManagerIpAllocationUsage[]	QueryExtensionIpAllocationUsage
Entity[]	QueryManagedBy
void	RegisterExtension
void	SetExtensionCertificate
void	SetPublicKey
void	UnregisterExtension
void	UpdateExtension

void UnregisterExtension

Parameters

NAME	TYPE	VALUE
extensionKey (required)	string	com.springpath.sysmgmt

Invoke Method

STEP-2: Click Here

STEP-3: Paste the value, then Click unregister extension ----->

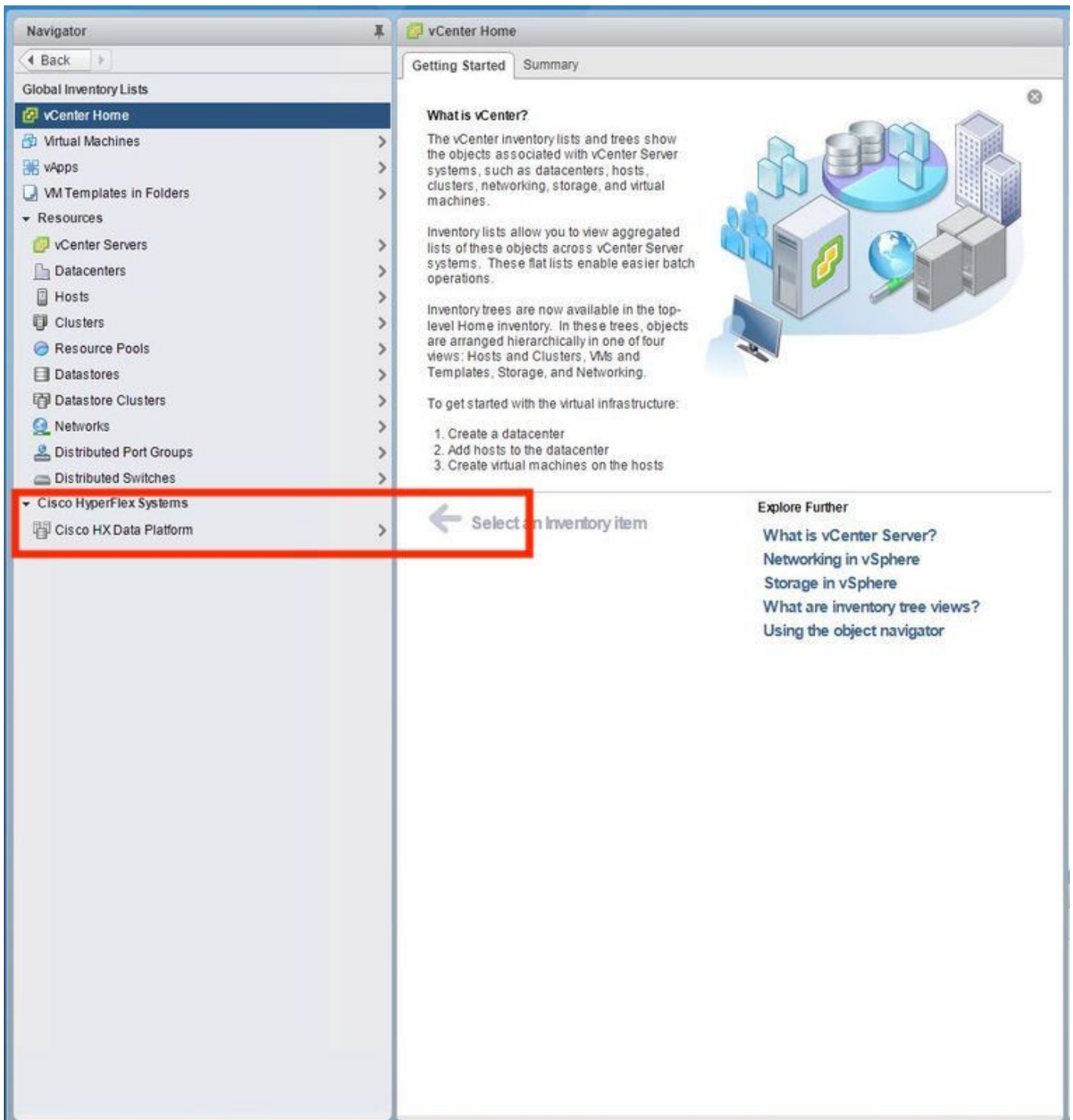
Step 10. Re-reregister the HX cluster to the same vCenter.

Run these commands to re-register the HX to vCenter.

```
root@ucs-stctlvm-116-1:~# stcli cluster reregister --vcenter-datacenter
DATACENTER --vcenter-cluster <CLUSTER> --vcenter-url <vCenterIP> --vcenter-user <USER>
```

Step 11. Wait for the vSphere Web Client services to come online before you can login back, it takes about 5 to 10 minutes.

After you log in, you should be able to see the **Cisco HX Data Platform** under **Cisco Hyperflex Systems**.



Step 12. If this does not work, check to see if the plugin was downloadable from VCSA SSH console. This test is to isolate any firewall, port issue or certificate issue.

With the use of wget:

```
sup-ucs-vc:~ # wget https://<CMIP>/plugins/stGui-1.0.zip --no-check-certificate
```

With the use of Curl:

```
sup-ucs-vc:~ # curl-v https://<CMIP>/plugins/stGui-1.0.zip
```

```

hyperflex-vcenter:/var/log/vmware/vsphere-client/logs # wget https://[redacted]/plugins/stGui-1.0.zip --no-check-certificate
--2018-08-28 21:55:18-- https://[redacted]/plugins/stGui-1.0.zip
Connecting to [redacted]:443... connected.
Unable to establish SSL connection.
hyperflex-vcenter:/var/log/vmware/vsphere-client/logs # wget https://[redacted]/plugins/stGui-1.0.zip --no-check-certificate
--2018-08-28 21:59:07-- https://[redacted]/plugins/stGui-1.0.zip
Connecting to [redacted]:443... connected.
Unable to establish SSL connection.
hyperflex-vcenter:/var/log/vmware/vsphere-client/logs # curl -v https://[redacted]/plugins/stGui-1.0.zip
* About to connect() to [redacted] port 443 (#0)
* Trying [redacted]... connected
* Connected to [redacted] ([redacted]) port 443 (#0)
* successfully set certificate verify locations:
* CAfile: none
CApath: /etc/ssl/certs/
* SSLv3, TLS handshake, Client hello (1):
* Unknown SSL protocol error in connection to [redacted]:443
* Closing connection #0
curl: (35) Unknown SSL protocol error in connection to [redacted]:443
hyperflex-vcenter:/var/log/vmware/vsphere-client/logs #

```

Step 13. Browse to <https://vCenterIPAddress/mob> then login as `administrator@vsphere.local`.

Navigate to **Content > Extension > ExtensionManager > extensionList ["com.springpath.sysmgmt"] > Server**

This is how it should look. The **ExtensionServerInfo** shows the same URL/IP for a given HX cluster. This should be the same IP as of CMIP.

Home

Data Object Type: **ExtensionServerInfo[]**
 Parent Managed Object ID: **ExtensionManager**
 Property Path: **extensionList["com.springpath.sysmgmt"].server**

Properties

NAME	TYPE	VALUE																														
[0]	ExtensionServerInfo	<table border="1"> <thead> <tr> <th>NAME</th> <th>TYPE</th> <th>VALUE</th> </tr> </thead> <tbody> <tr> <td>adminEmail</td> <td>string[]</td> <td>"admin@springpathinc.com"</td> </tr> <tr> <td>company</td> <td>string</td> <td>"Springpath, Inc."</td> </tr> <tr> <td>description</td> <td>Description</td> <td> <table border="1"> <thead> <tr> <th>NAME</th> <th>TYPE</th> <th>VALUE</th> </tr> </thead> <tbody> <tr> <td>label</td> <td>string</td> <td>"1297828382378014114:7656544413023044243"</td> </tr> <tr> <td>summary</td> <td>string</td> <td>"hx-2-cluster"</td> </tr> </tbody> </table> </td> </tr> <tr> <td>serverThumbprint</td> <td>string</td> <td>"28:71:47:9A:C0:58:72:40:C0:E7:9A:DB:39:2A:A3:1A:FD:97:BF:D7"</td> </tr> <tr> <td>type</td> <td>string</td> <td>"springpath-cluster"</td> </tr> <tr> <td>url</td> <td>string</td> <td>"https://[redacted]/stMor"</td> </tr> </tbody> </table>	NAME	TYPE	VALUE	adminEmail	string[]	"admin@springpathinc.com"	company	string	"Springpath, Inc."	description	Description	<table border="1"> <thead> <tr> <th>NAME</th> <th>TYPE</th> <th>VALUE</th> </tr> </thead> <tbody> <tr> <td>label</td> <td>string</td> <td>"1297828382378014114:7656544413023044243"</td> </tr> <tr> <td>summary</td> <td>string</td> <td>"hx-2-cluster"</td> </tr> </tbody> </table>	NAME	TYPE	VALUE	label	string	"1297828382378014114:7656544413023044243"	summary	string	"hx-2-cluster"	serverThumbprint	string	"28:71:47:9A:C0:58:72:40:C0:E7:9A:DB:39:2A:A3:1A:FD:97:BF:D7"	type	string	"springpath-cluster"	url	string	"https://[redacted]/stMor"
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Note: Red arrows point from the 'url' field of [0] to the 'url' field of [1], with the text "Same IP" next to them.

Step 14. If the server mob output does not show the same URL DNS name, for example, if [0]ExtensionServerInfo and [1]ExtensionServerInfo were two separate URL DNS Names, it

could be an issue and cause a problem.

Find the URL which is the Cluster management IP. Verify the DNS in the CtrlVM and follow these steps:

- Disable DNS from HX cluster. SSH to any storage CtrlVM
- Verify DNS server: **#stcli services dns show** (get the IP of DNS server)
- Stop DNS: **#stcli services dns remove --dns <DNS server IP>**
- Verify DNS stopped: **#stcli services dns show**
- Delete the extensionList ["com.springpath.sysmgmt"] mob from vCenter (as covered in Step 9.)
- Re-register the HX Cluster to vCenter (as covered in Step 10.)
- Logout form Web Client and log back. It is verified if the plugin shows up.
- Add the DNS server back to the hx cluster: **#stcli services dns add --dns <DNS server IP>**
- Verify DNS server is running: **#stcli services dns show**

Log Analysis

Log Collection

1. vCenter logs - <https://kb.vmware.com/s/article/1011641>
2. Hyperflex storfs bundle - <https://www.cisco.com/c/en/us/support/docs/hyperconverged-infrastructure/hyperflex-hx-data-platform/210831-Visual-guide-to-collect-Tech-Support-fil.html>

Example Error Messages

1. Check vCenter virgo logs and look out for messages if vCenter is having communication issues with HX Cluster stMgr.
2. VCSA Virgo log location: **/var/log/vmware/vsphere-client/logs/vsphere_client_virgo.log**
3. Check the stMgr logs location: **/var/log/springpath/stMgr.log** and look out for error messages or failed messages that correspond to Hyperflex cluster or vCenter plugin.

Example logs in a problem situation:

```
stMgr failed to return a simple cluster name,
```

```
[2016-11-15T19:48:40.542Z] [WARN ] pool-9-thread-1          70000096 100001 200001
com.storvisor.sysmgmt.service.ThriftServiceAccess      Failed to get cluster name
when checking for cluster access. org.apache.thrift.transport.TTransportException:
java.net.UnknownHostException: cisco-storage-cluster.com
```

```
at org.apache.thrift.transport.THttpClient.flush(THttpClient.java:356)
```

```
at org.apache.thrift.TServiceClient.sendBase(TServiceClient.java:65)
```

```
at com.storvisor.sysmgmt.StMgr$Client.send_getName(StMgr.java:1308)
```

```
at com.storvisor.sysmgmt.StMgr$Client.getName(StMgr.java:1301)
```

```
at
com.storvisor.sysmgmt.service.ThriftServiceAccess.isValidAccess(ThriftServiceAccess.java:228)

at
com.storvisor.sysmgmt.service.util.StorvisorServerCacheForceUpdaterThread.call(StorvisorServerCa
cheForceUpdaterThread.java:28)

at
com.storvisor.sysmgmt.service.util.StorvisorServerCacheForceUpdaterThread.call(StorvisorServerCa
cheForceUpdaterThread.java:12)

at java.util.concurrent.FutureTask.run(Unknown Source)
at java.util.concurrent.ThreadPoolExecutor.runWorker(Unknown Source)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(Unknown Source)
at java.lang.Thread.run(Unknown Source)
```

Caused by: java.net.UnknownHostException: cisco-storage-cluster.com

```
at java.net.AbstractPlainSocketImpl.connect(Unknown Source)
at java.net.SocksSocketImpl.connect(Unknown Source)
at java.net.Socket.connect(Unknown Source)
at sun.security.ssl.SSLSocketImpl.connect(Unknown Source)
```

4. Open a Cisco TAC SR if this does not help: <https://mycase.cloudapps.cisco.com/case>