Installing Cisco Elastic Services Controller on VMware vCenter

This chapter describes how to install Cisco Elastic Services Controller on VMware vCenter and includes the following sections:

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Cisco Elastic Services Controller can be installed in a VMware ESXi hypervisor and can be accessed or managed using vSphere client of VMware. You can install Cisco Elastic Services Controller in a VMware environment using an Open Virtual Appliance (OVA) package.

The VMware vSphere client can be connected directly to your ESXi installation, or it can be connected to a vCenter server which in turn is connected to your vSphere installation. Connecting through vCenter provides a number of capabilities that connecting directly to ESXi does not. If a vCenter server is available and associated with the ESXi installation, it should be used.

Preparing to Install Cisco Elastic Services Controller

In order to install Cisco Elastic Services Controller and configure its network connection, you have to answer several questions. Some of these questions concern the networking environment in which the virtual machine is being installed, and some of them concern values which are unique to the particular virtual machine being installed.

Before you perform the installation, ensure that you are prepared by reviewing this checklist:

Requirements	Your Information/ Notes
OVA image location	
OVA image	
VSphere Web Client	
Hostname	

Requirements	Your Information/ Notes
IP address	
Subnet mask	
Network	
vCenter IP	
vCenter Port	
vCenter credentials	
Datacenter Name	
Datastore Host	
Computer Cluster Name	

Installing the Elastic Services Controller Using the OVA Image

To install Cisco Elastic Services Controller, you must first download the correct installation file.

Using vSphere, connect directly to the ESXi installation or the vCenter server, and select the ESXi installation where the OVA is to be deployed.

This procedure describes how to deploy the Elastic Services Controller OVA image on VMware.

Before you begin

- Set your keyboard to United States English.

- Confirm that the Elastic Services Controller OVA image is available from the VMware vSphere Client.

- Make sure that all system requirements are met as specified in the Chapter 6: Prerequisites.

- Gather the information identified in Preparing to Install Cisco Elastic Services Controller.

Procedure

Step 1 Using the VMware vSphere Client, log in to the vCenter server.

Step 2 Choose **vCenterHome** > **Hosts and Clusters**. Right click the host where you want to deploy ESC, and then choose **Deploy OVF Template**.

Step 3 In the wizard, provide the information as described in the following table:

Screen	Action
Select source	Select the Elastic Services Controller OVA.
Review details	Review OVF Template details.
Select name and folder	Enter a name and select a folder for the VM.

Screen	Action
Select configuration	Select any one of the following deployment configurations: • Large, 1 Network • Large, 2 Networks • Large, 3 Networks
Select a resource	Select the host or cluster to run the ESC template.
Select storage	Select a location to store the files for the VM and a provisioning type. The storage can be local or shared remote, such as NFS or SAN. You can choose either **Thin provisioned format** or **Thick provisioned format** to store the VM virtual disks.
Select networks	Based on the Network configuration for the deployment selected in the **Select configuration** option, you can allocate the pre-configured networks in vCenter to ESC network interfaces.
Customize template	
Bootstrap Properties	
Username	Administrator username for remote login.
Password	Administrator password.
Host name	VM Hostname.
Network IP	VM IP address.
Network Gateway	Gateway IP address.
Enable Https Rest	Enable external REST interface over HTTPS on port 8443.
Enable Portal startup	Enable Portal startup at port 9001 (for https).
VIM Settings of vCenter Server	
vCenter IP	IP address of vCenter server for VNF deployment .
vCenter Port	Port of the vCenter server.
vCenter Username	Username to access vCenter server.
vCenter Password	Password to access vCenter server.

Screen	Action
Datacenter Name	Name of the Datacenter in target vCenter for VNF deployment (Default VDC after Multi-VDC supported)
Datastore Name	The destination datastore of all the image (template) create through ESC .
Datastore Host	The destination computing-host of all the image (template) create through ESC.
Ready to Complete	Review the deployment settings. **Caution** Any discrepancies can cause VM booting issues. Carefully review the IP address, subnet mask, and gateway information for accuracy.
Public Key	Administrator authorized public key for remote login.
ConfD Username	Administrator username for netconf and ConfD CLI.
ConfD Password	Administrator password for netconf and ConfD CLI.
ConfD Public Key	Administrator authorized public key for netconf and ConfD CLI.

Step 4 Check the **Power on after deployment** check box to power on the VM after deployment.

Step 5 Click **Finish**.
A progress indicator shows the task progress until Elastic Services Controller is deployed.

Step 6 After Elastic Services Controller is successfully deployed, click **Close**.

Step 7 Power on the Elastic Services Controller VM.

Installing Elastic Services Controller Using OVF Tool

In addition to installing the Elastic Services Controller using the OVA image, you can use the VMware OVF Tool, a command-line client, to install Elastic Services Controller on VMware vCenter or vSphere.

To install Elastic Services Controller (ESC) from the command line, do the following:

Procedure

Step 1 Use the probe mode to learn the properties of the OVA package. The probe mode allows you to investigate the contents of a source.

To invoke the probe mode, use the **ovftool** command with only a source and no target.

```
>ovftool <source locator>
```

The following example shows the result of probing the ESC OVA.

```
NETWORK_OVA=(Path to the OVA Package)

NETWORK_HOSTNAME="$(User Name)"
NETWORK_GATEWAY="192.0.2.1"
NETWORK_NET1_IP="192.0.2.0.xx/24" #
NETWORK_NET2_IP="192.51.100.xx/24"
ADMIN_USERNAME="(admin name)"
ADMIN_PASSWORD="(password)"
HTTPS_REST="True"

VMWARE_VCENTER_PORT='80'
VMWARE_VCENTER_IP='192.0.2.0.xx'
VMWARE_DATASTORE_HOST='192.0.2.0.xx'
VMWARE_DATACENTER_NAME='DC-NETWORK-1'
VMWARE_DATASTORE_NAME='cluster-datastore1'
VMWARE_COMPUTE_CLUSTER_NAME='DC-CLUSTER-1'
VMWARE_VCENTER_USERNAME='root'
VMWARE_VCENTER_PASSWORD='password'
VMWARE_VCENTER_FOLDER="$USER"

# All valid deployment options:
#        4CPU-8GB   (default)
#        4CPU-8GB-2Net
#        4CPU-8GB-3Net
DEPLOYMENT_OPTION="4CPU-8GB-2Net"
```

Step 2   Before you deploy the ESC OVA, configure the properties of the OVA packages. Ensure the following OVA package properties are updated for the ESC OVA: NETWORK_OVA, NETWORK_HOSTNAME, VMWARE_VCENTER_FOLDER, NETWORK_NET1_IP, NETWORK_NET2_IP, and VMWARE_VCENTER_FOLDER.

The OVA descriptors contain configuration properties for the OVA package. You can set only one property at a time, but you can have multiple instances of the option per command. For multiple property mappings, repeat the option, separating them with a blank, for example *--prop:p1=v1 --prop:p2=v2 --prop:p3=v3*.

```
>.ovftool/ovftool\
--powerOn \
--acceptAllEulas \
--noSSLVerify \
--datastore=$VMWARE_DATASTORE_NAME \
--diskMode=thin \
--name=$NETWORK_HOSTNAME \
--deploymentOption=$DEPLOYMENT_OPTION \
--vmFolder=$VMWARE_VCENTER_FOLDER \
--prop:admin_username=$ADMIN_USERNAME --prop:admin_password=$ADMIN_PASSWORD \
--prop:admin_username=admin \
--prop:admin_password='Strong4Security!' \
--prop:confd_admin_username=admin \
--prop:confd_admin_password='Strong4Security!' \
--prop:network_hostname=$NETWORK_HOSTNAME \
--prop:vmware_vcenter_port=$VMWARE_VCENTER_PORT \
--prop:vmware_vcenter_ip=$VMWARE_VCENTER_IP \
--prop:vmware_datastore_host=$VMWARE_DATASTORE_HOST \
--prop:vmware_datacenter_name=$VMWARE_DATACENTER_NAME \
--prop:vmware_vcenter_username=$VMWARE_VCENTER_USERNAME \
--prop:vmware_datastore_name=$VMWARE_DATASTORE_NAME \
--prop:vmware_compute_cluster_name=$VMWARE_COMPUTE_CLUSTER_NAME \
--prop:vmware_vcenter_password=$VMWARE_VCENTER_PASSWORD \
--prop:net1_ip=$NETWORK_NET1_IP \
--prop:net2_ip=$NETWORK_NET2_IP \
--prop:gateway=$NETWORK_GATEWAY \
--prop:https_rest=$HTTPS_REST \
--net:"Network1=VM Network" --net:"Network2=MgtNetwork" --net:"Network3=VNFNetwork" \
```

```
       $NETWORK_OVA
vi://$VMWARE_VCENTER_USERNAME:$VMWARE_VCENTER_PASSWORD@$VMWARE_VCENTER_IP/$VMWARE_DATACENTER_NAME/
host/$VMWARE_COMPUTE_CLUSTER_NAME
```

Following are some advanced examples of passing user credentials through properties.

Advanced usage with password hash:

```
--prop:admin_username=admin \
--prop:admin_password='$6$wnOi$UDOQmkKm2tQtr2jDVNhoo4wS42ffYYmzxMXLDugfzTbTXmMQDw146VzpxQvMumeaa125.agYHZUqQ8L.sdM2v0'
 \
--prop:confd_admin_username=admin \
--prop:confd_admin_password='$6$wnOi$UDOQmkKm2tQtr2jDVNhoo4wS42ffYYmzxMXLDugfzTbTXmMQDw146VzpxQvMumeaa125.agYHZUqQ8L.sdM2v0'
 \
```

Advanced usage with password hash and authorized public key:

```
--prop:admin_username=admin \
--prop:admin_password='$6$wnOi$UDOQmkKm2tQtr2jDVNhoo4wS42ffYYmzxMXLDugfzTbTXmMQDw146VzpxQvMumeaa125.agYHZUqQ8L.sdM2v0'
 \
--prop:admin_public_key='ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAIEAu+nkTtu2pShVbTYL+mmKxtmzM5dNXFy8IeX/lH5fXsODH1EAySlzHGFXq36RT5vIG/
+c2uV8fRsWaY7xXDrdGICxfkPuEj2UQH2MQx2yFjMFcaSAT56hsqE= admin@net' \
--prop:confd_admin_username=admin \
--prop:confd_admin_password='$6$wnOi$UDOQmkKm2tQtr2jDVNhoo4wS42ffYYmzxMXLDugfzTbTXmMQDw146VzpxQvMumeaa125.agYHZUqQ8L.sdM2v0'
 \
--prop:confd_admin_public_key='ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAIEAu+nkTtu2pShVbTYL+mmKxtmzM5dNXFy8IeX+xXu6TT2sTsxkKtVy8uOAeBp1qKzkp+
c2uV8fRsWaY7xXDrdGICxfkPuEj2UQH2MQx2yFjMFcaSAT56hsqE= admin@net' \
```

Note   You need to replace the variables (IP addresses, root password, VM names, and so on) in the examples above with values from your own system.

Step 3   To deploy the OVA package with the VMware OVF Tool, use the following command syntax:

```
>ovftool <source locator> <target locator>
```

where *<source locator>* is the path to the OVA package and *<target locator>* is the path target for the virtual machine, OVA package or VI. A VI location refers to any location on a VMware product, such as vSphere, VMware Server or ESXi. For more information on the VMware OVF Tool, see the VMware OVF Tool user documentation.

The ESC VM is deployed on VMware and powered on automatically.

Powering on Cisco Elastic Services Controller Virtual Machine

To power on the Cisco Elastic Services Controller virtual machine (VM):

Note   You must set the memory and CPUs based on the requirements prior to clicking the power on. Once you start the VM you cannot change the memory or CPU settings until you shut down.

Procedure

Step 1 After deploying the VM, select the virtual machine name in vSphere, right-click on it and select **Open Console**.

Step 2 Click the **Power on** button (▶). During the initial boot of the newly deployed machine, you will be prompted to enter a root (system) password, which is not the Cisco Elastic Services Controller portal password. Initialization may vary depending on the setup.

> **Note** This is the root password for the underlying Linux operating system on which the Cisco Elastic Services Controller portal is installed. You will be asked to enter this password twice. You will need root access to the underlying Linux operating system at various times in the future, so make sure that you remember this password.

The End User License Agreement window appears on the first boot. Read the license agreement in its entirety, and only if you understand and accept the license terms, enter y (Yes).

Next Steps: Cisco Elastic Services Controller Virtual Machine

Logging in to Cisco Elastic Services Controller Portal

To log in to the ESC Portal, see the Logging in to the ESC Portal

Configuring the Virtual Machine to Automatically Power Up

You can configure the ESXi hypervisor to automatically power up the ESC VM when power is restored to the ESXi hypervisor layer.

> **Note** You must manually power up the VM.

Procedure

Step 1 In the vSphere client, select the ESXi machine to which you are connected. It is not a specific VM that you have to select but the ESXi hypervisor on which they reside.

Step 2 Select the **Configuration** tab.

Step 3 Click the **Virtual Machine Startup/Shutdown** link under the **Software** area. You should see the VM in the list shown in window.

Step 4 Click the **Properties...** link present at the top right corner of the page. If you do not see that, resize the window until you do.

The Virtual Machine Startup and Shutdown page is displayed.

Step 5 Check the **Allow virtual machines to start and stop automatically with the system** check box.

Step 6   Select the virtual machine running ESC and use the **Move Up** button on the right to move it up into the group labeled **Automatic Startup**

Step 7   Click **OK**

This ensures that whenever power is restored to the ESXi hypervisor, the ESC VM powers up automatically.