



ESXi

Deployment Guide

Eli-v6.2.20

Bridgeworks

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1 Minimum Hardware Requirements for Nodes in ESXi

1.1 Bridgeworks ESXi 100 Series Node

- 2 logical processors
- 2GB of RAM
- 1GB of storage space

1.2 Bridgeworks ESXi 200 Series Node

- 3 logical processors
- 4GB of RAM
- 1GB of storage space

1.3 Bridgeworks ESXi 400 Series Node

- 4–8 logical processors
- 16GB of RAM
- 1GB of storage space

1.4 ESXi Host

ESXi versions 6.5, 6.7 and 7.0 are currently supported.

There is a direct correlation between the CPU clock speed and the performance of the acceleration, particularly in the case of using IPsec over the WAN link:

- Not using IPsec: 1.8GHz or higher for 1Gb link performance.
- IPsec: CPUs that include the AES-NI instruction set for example Intel Xeon 5600 Series or higher, with at least 2.2GHz clock speed for full 1Gb link performance.

VMware's ESXi can be downloaded from the VMware download page located at <https://my.vmware.com/web/vmware/downloads>.

1.5 Supported Features

Virtualised network cards are supported; in this case it is preferable to use the VMXNET3 driver for the best performance.

For PCI passthrough the following cards are supported:

- Intel 10GbE X520
- Intel 10GbE X540
- Intel 10GbE X710

2 Deploying a Bridgeworks ESXi Node - Using vSphere Web Client

2.1 Introduction

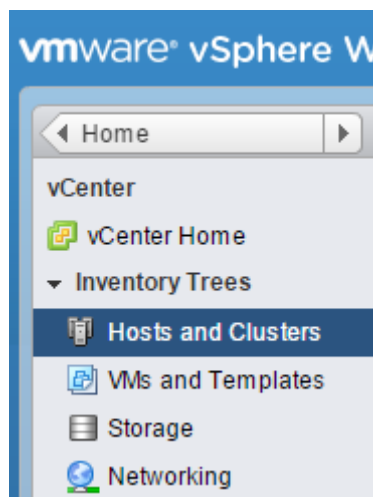
This section details how to deploy a Bridgeworks Node into a VMware environment using the vSphere Web Client.

Skip this step if you wish to deploy a Node using the vSphere desktop client.

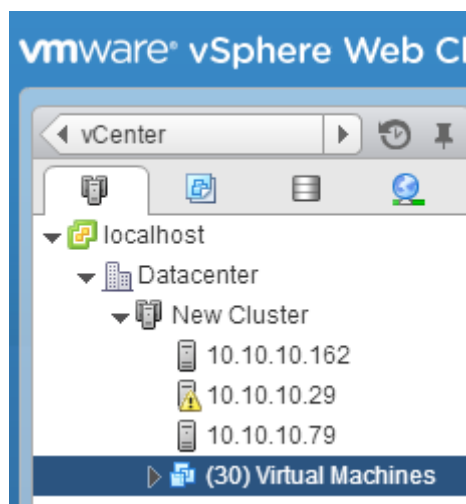
The instruction given in this guide is suitable for deploying a WANrockIT or PORTrockIT Node. For a full guide on OVF deployment, consult [the VMware vSphere 5.1 Documentation Center](#).


2.2 Deploying the OVF

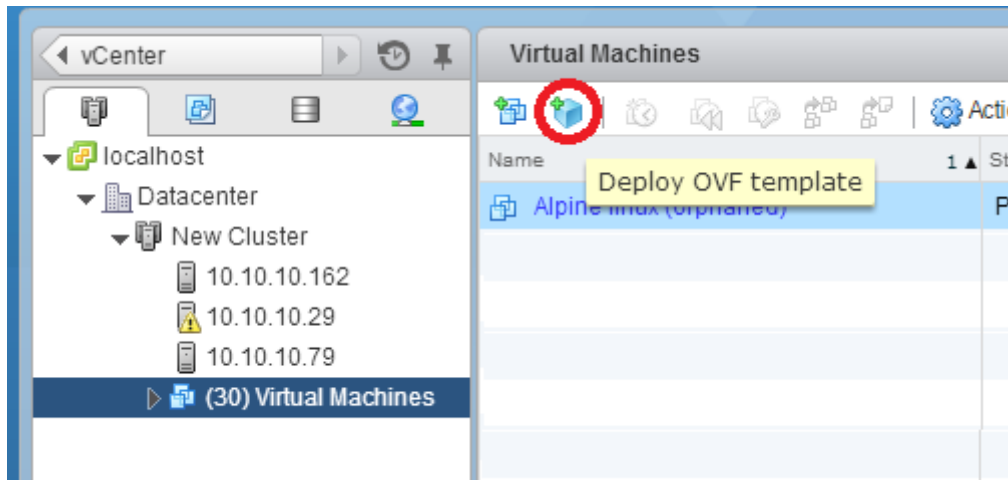
After logging in to the web client, select *Hosts and Clusters* from the left hand menu.



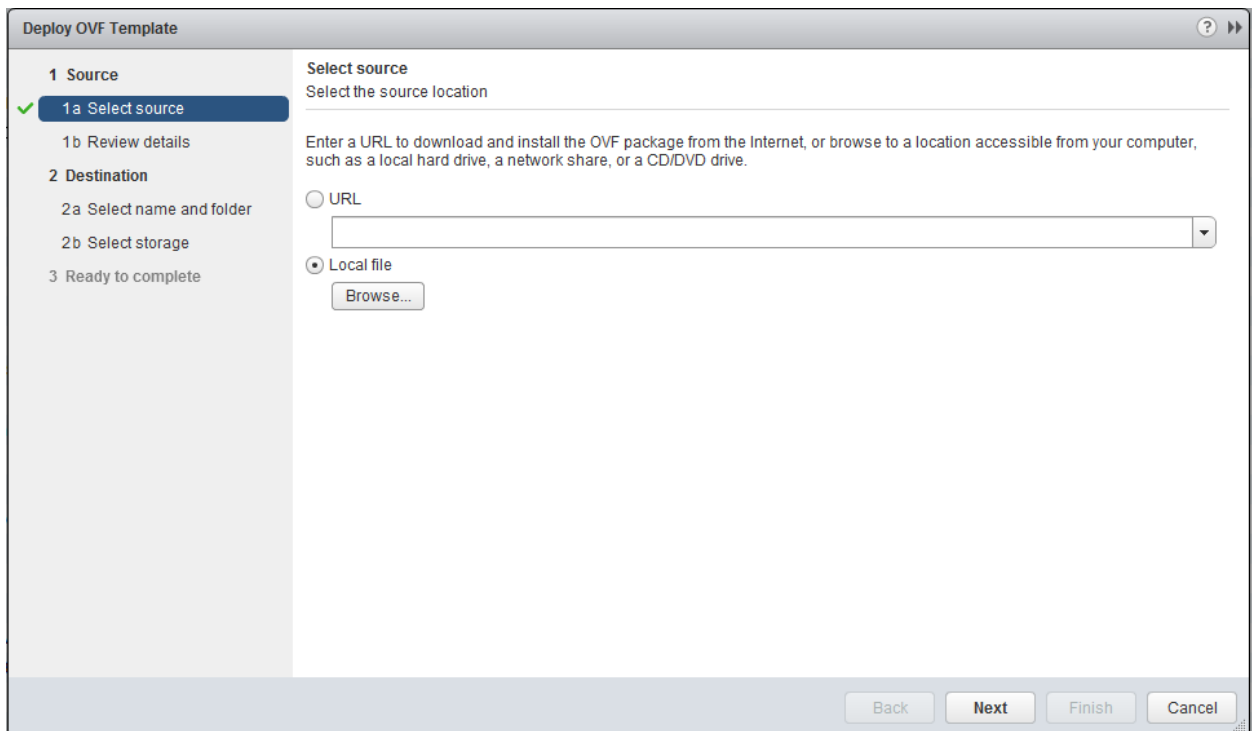
From the menu shown below, locate your *Datacenter* and, within your *Cluster*, select the *Virtual Machines* tab.



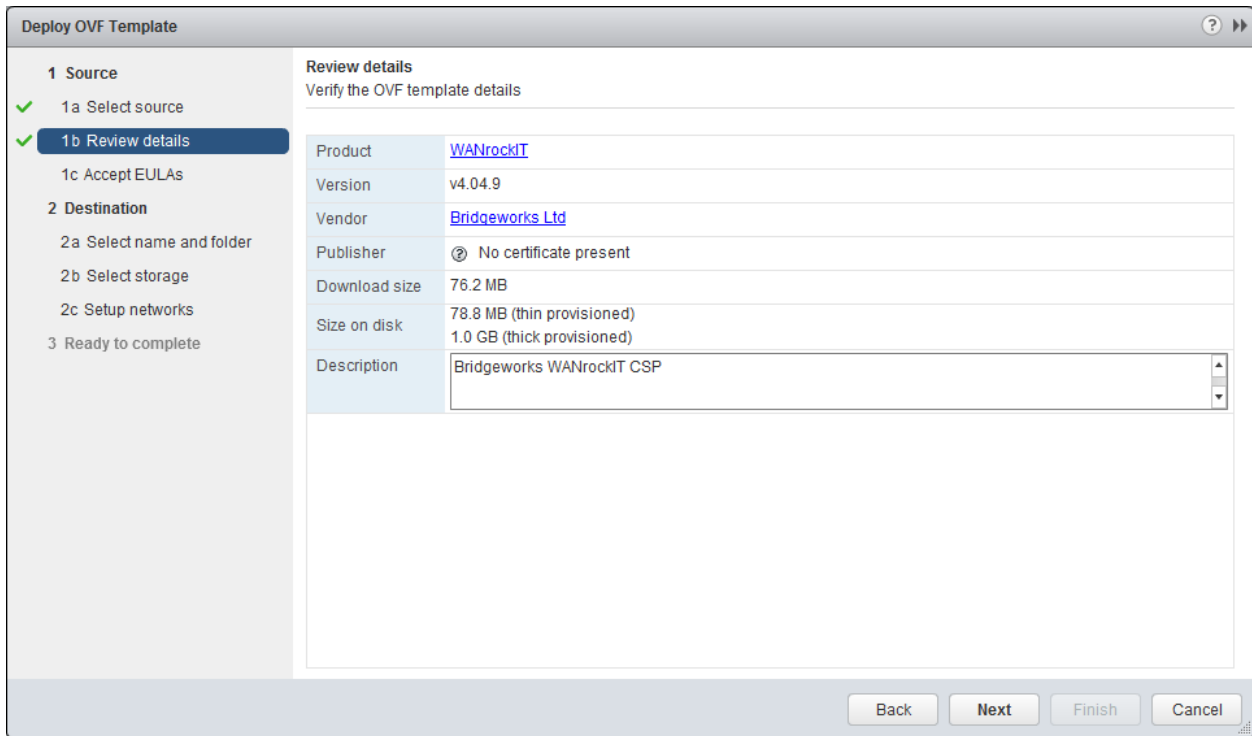
Under the Virtual Machines heading, click on the *Deploy OVF template*  button.



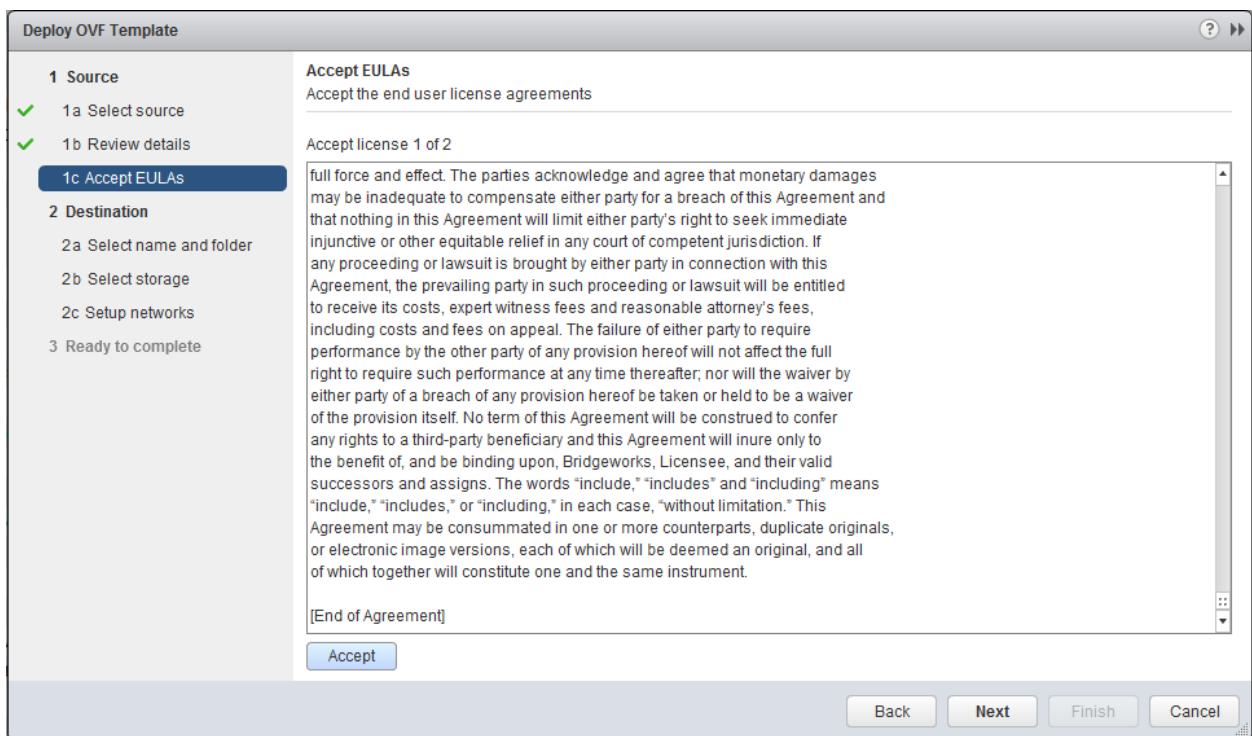
Click on the *Browse* button, select the location of the Bridgeworks OVA file, and click *Next*.



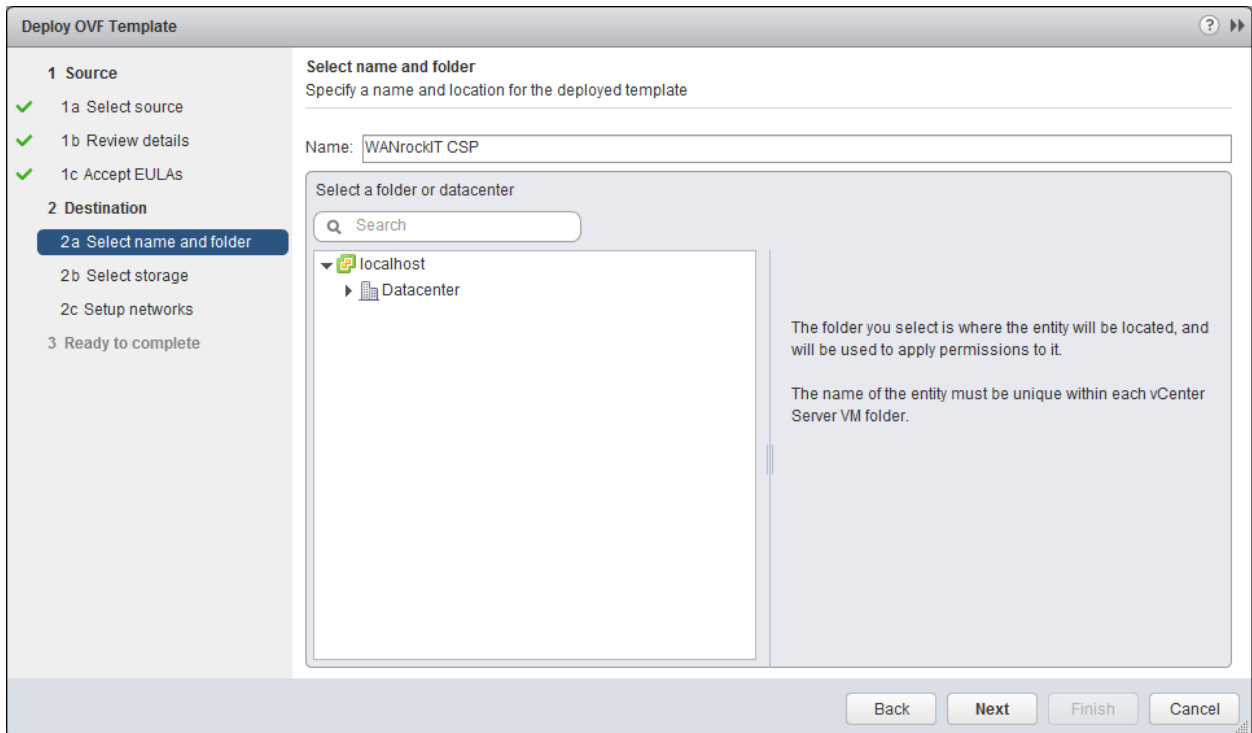
Once the template has loaded, details of the Node to be deployed will be shown. Confirm that the correct product is being deployed, and click *Next*.



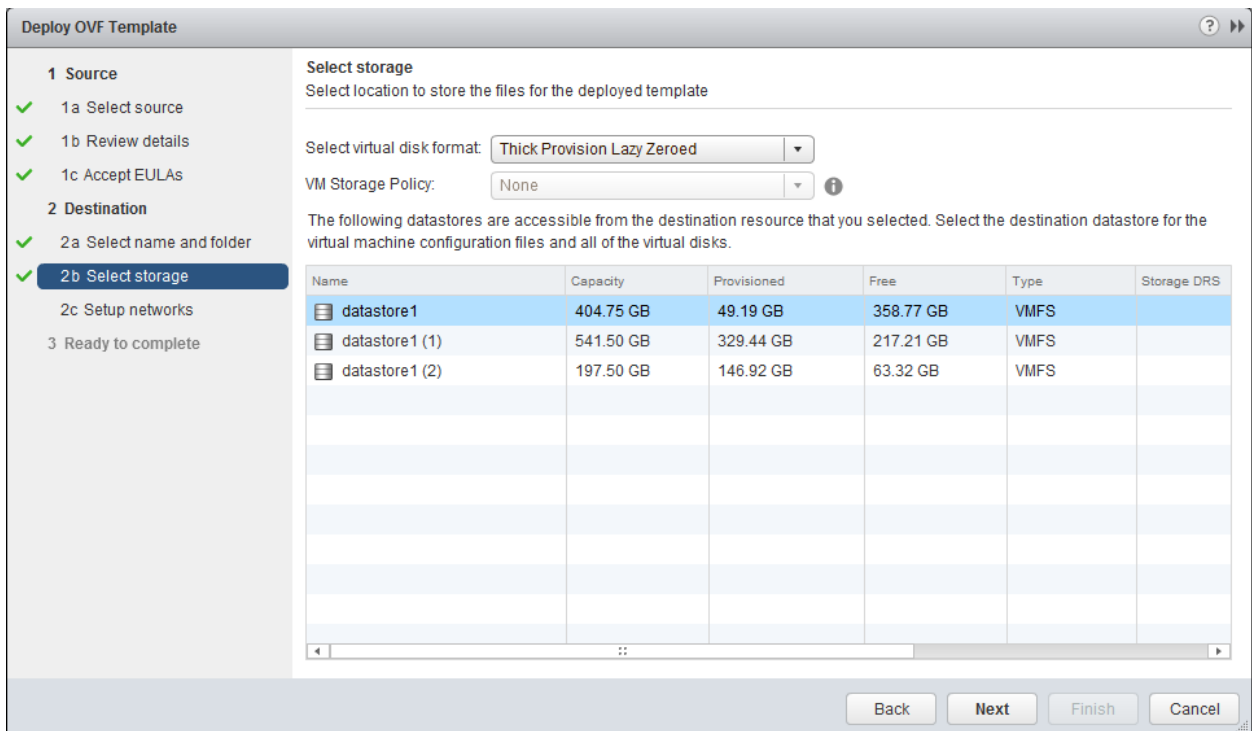
An End User Licence Agreement (EULA) must be accepted before deploying a Bridgeworks Node. Ensure you read this agreement thoroughly. To proceed, you must accept the agreement by clicking the *Accept* button, and then continue to the following step with the *Next* button.



Enter a name for the virtual machine. In this example, the Node is named *WANrockIT CSP*. Select which *Datacenter* the image will be deployed to.



Select a data store with at least 1GB of free space for the virtual machine and click *Next*.



Three network ports will need to be configured and connected to relevant vSwitches.

Clicking on each network port provides information about what each port is to be used for:

- Port 1 (Management): Used to access the web interface for managing your Node.
- Port 2 (WAN): Used to connect to your other Bridgeworks Node across a WAN link.

- Port 3 (LAN): Used to connect to the device to which you want to apply the acceleration.

When deploying PORTrockIT in the *Bridged Physically-In-Path* topology, the WAN and LAN ports will be bridged together. Both ports must be isolated from each other to prevent loops being created in the network.

To complete, click on *Next*, and then *Finish*.

The screenshot shows the 'Deploy OVF Template' wizard in the 'Setup networks' step. The left sidebar shows a progress list with '2c Setup networks' selected. The main area contains a table for network configuration, IP protocol settings, and detailed descriptions for the selected source and destination.

Source	Destination	Configuration
Port 1 (Management)	MGMT	✓
Port 2 (WAN)	LAN	✓
Port 3 (LAN)	WAN	✓

IP protocol: IPv4 IP allocation: Static - Manual ⓘ

Source: Port 1 (Management) - Description
The port used to access the Web interface of the node.

Destination: MGMT - Protocol settings
No configuration needed for this network

Buttons: Back, Next, Finish, Cancel

Congratulations, you have finished deploying your Bridgeworks Node.

3 Deploying a Bridgeworks ESXi Node - Using vSphere Client

3.1 Introduction

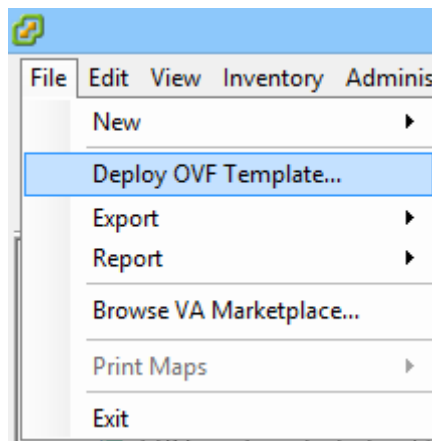
This section details how to deploy a Bridgeworks Node into a VMware environment using the vSphere Client.

If you have already deployed your Node using the web-based client, skip this step.

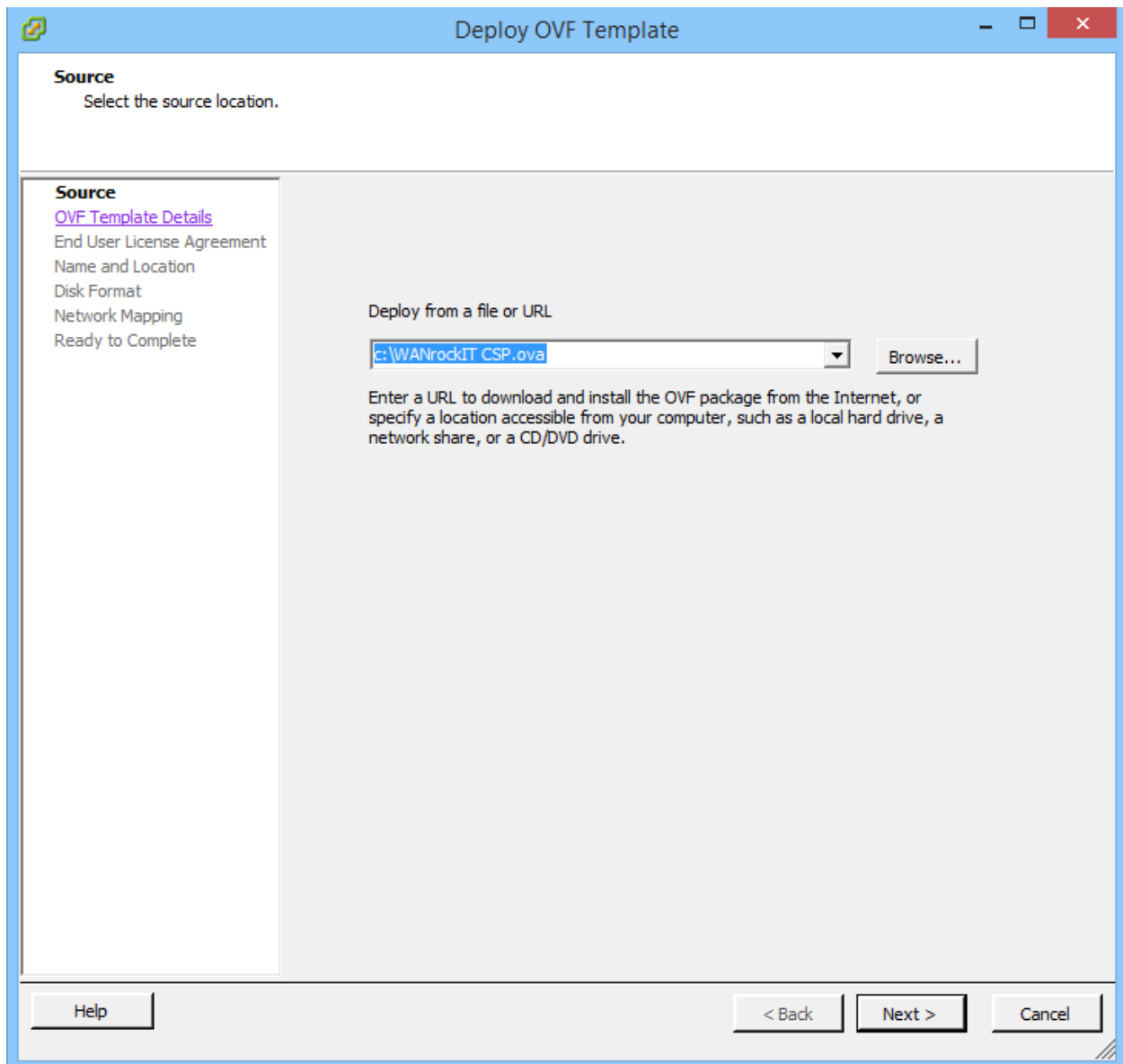
The instruction given in this guide is suitable for deploying a WANrockIT or PORTrockIT Node. For a full guide on OVF deployment, consult [the VMware vSphere 5.1 Documentation Center](#).

3.2 Deploying the OVF

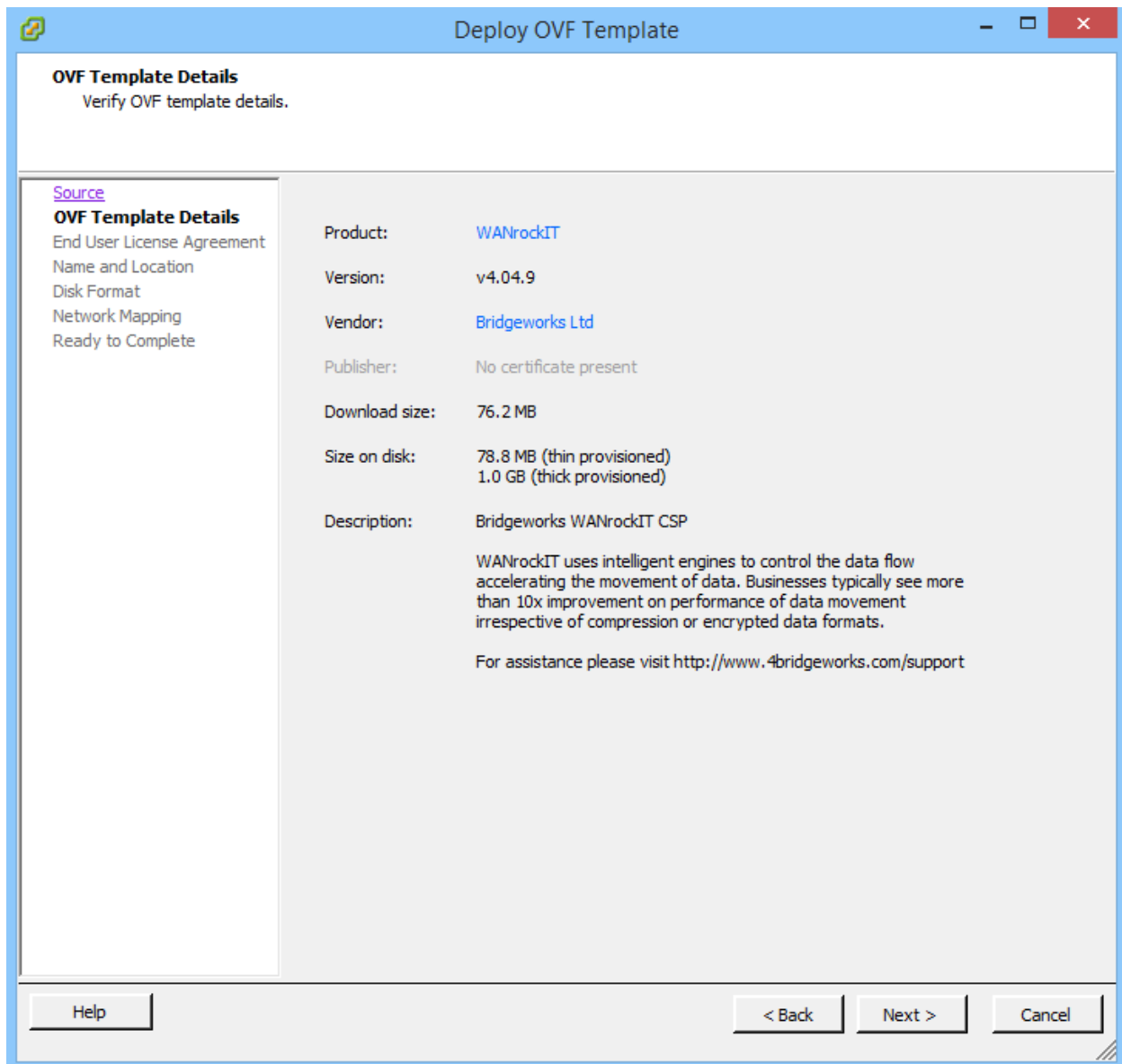
From the file menu within the vSphere client, click on *Deploy OVF Template*.



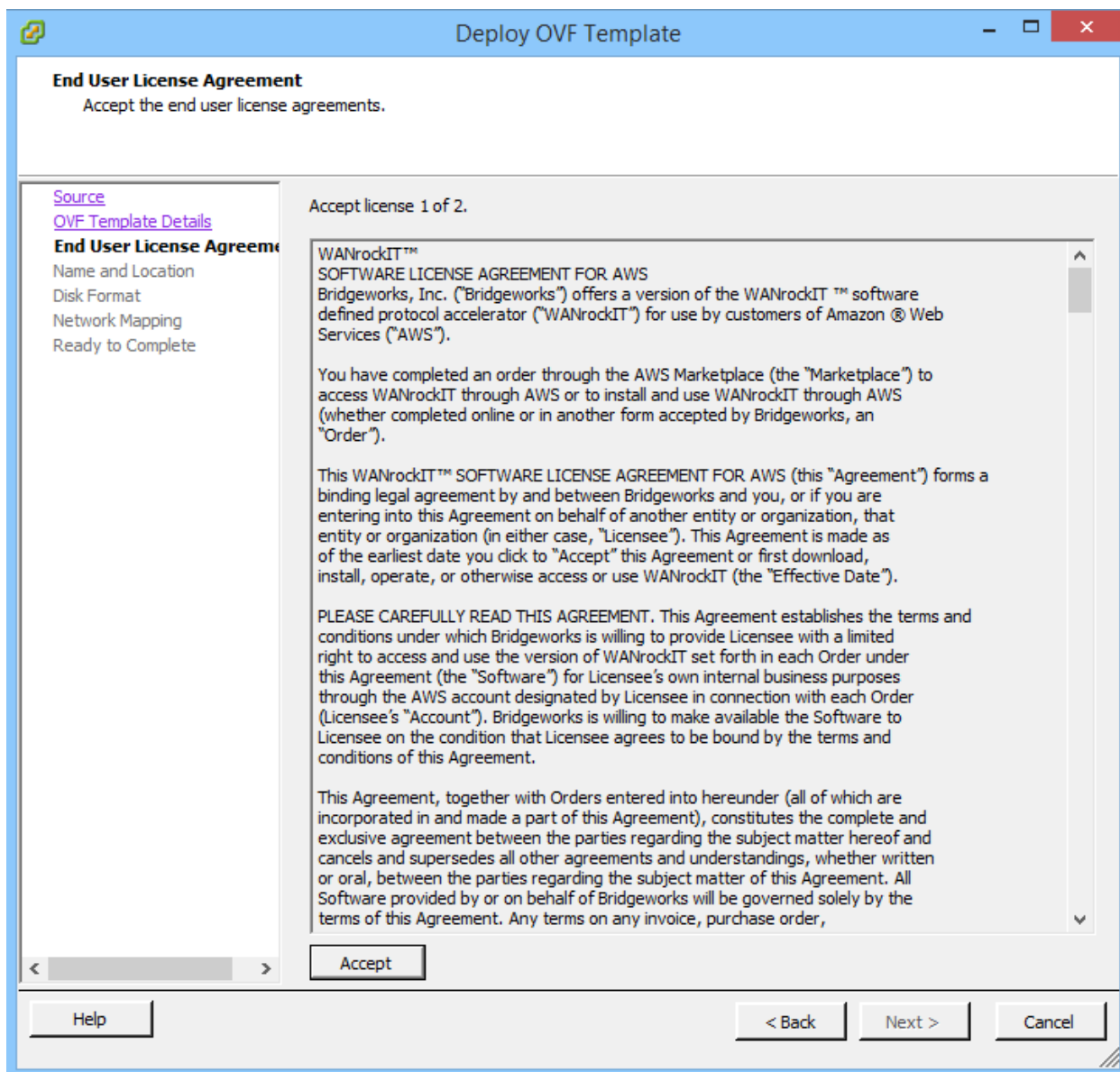
Click on the *Browse* button, select the location of the Bridgeworks OVA file, and click *Next*.



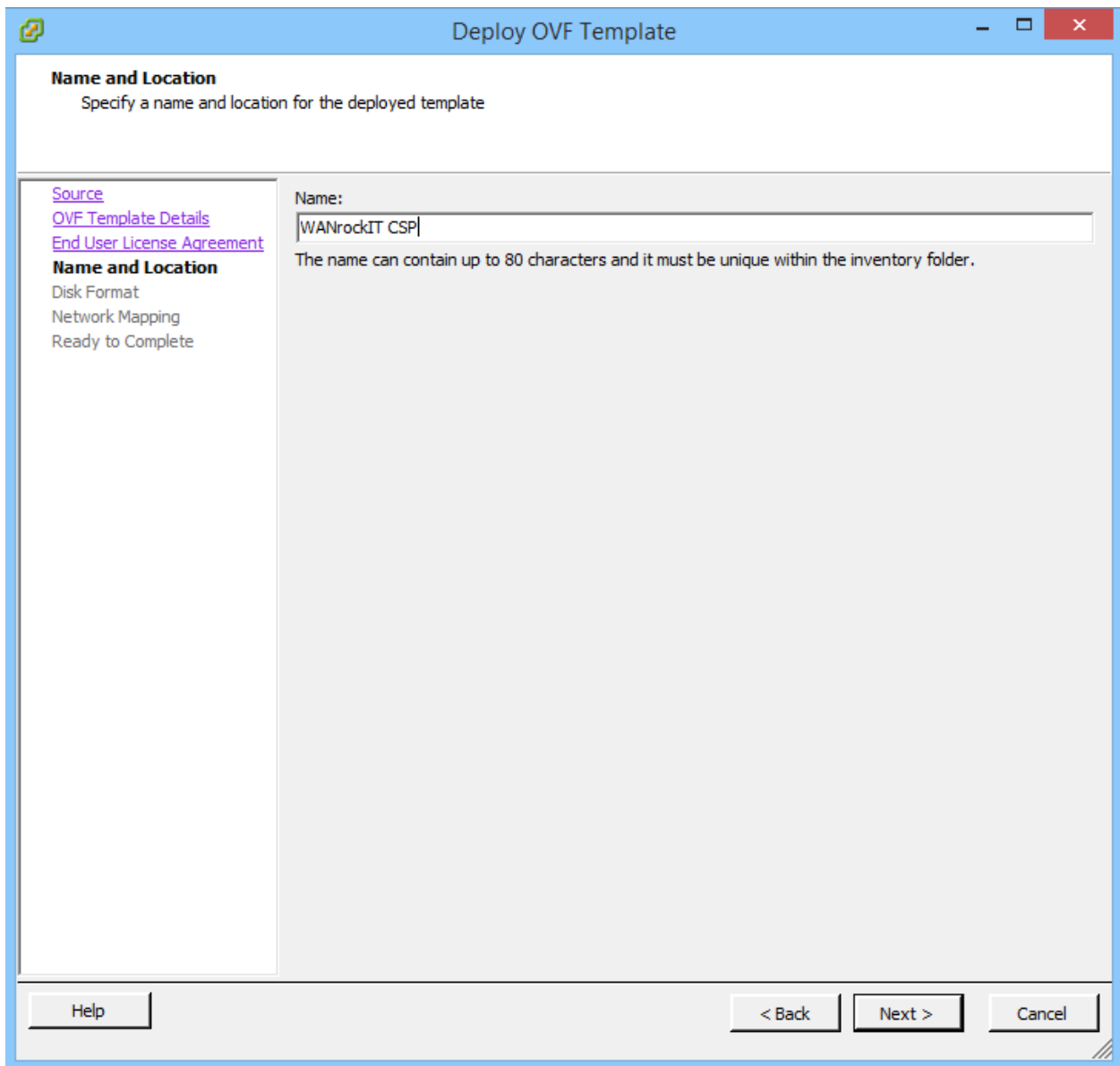
Once the template has loaded, details of the Node to be deployed will be shown. Confirm that the correct product is being deployed, and click *Next*.



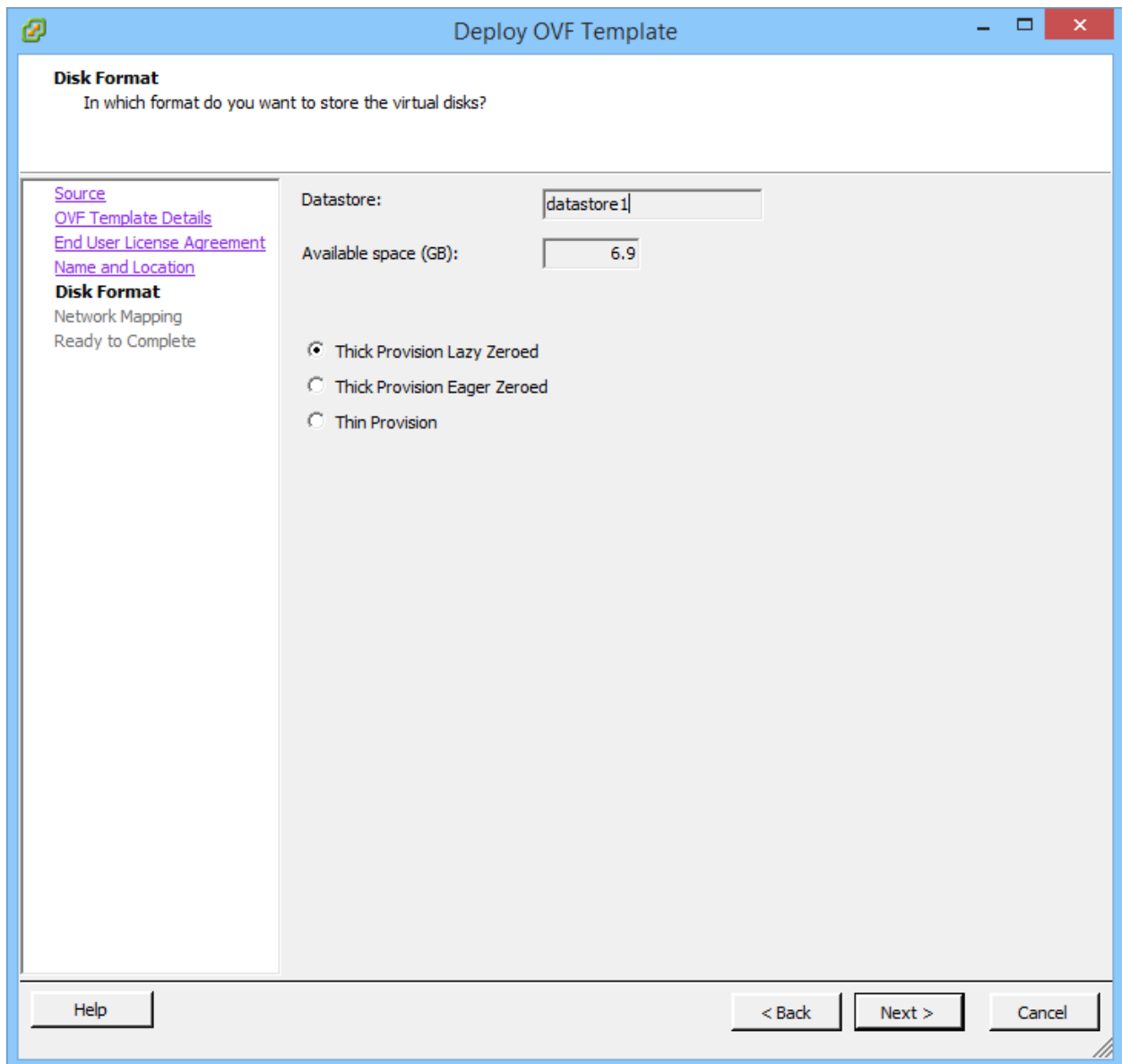
An End User Licence Agreement (EULA) must be accepted before deploying a Bridgeworks Node. Ensure you read this agreement thoroughly. To proceed, you must accept the agreement by clicking the *Accept* button, and then continue to the following step with the *Next* button.



Enter a name for the virtual machine. In this example, the Node is named *WANrockIT CSP*.



Select a data store with at least 1GB of free space for the virtual machine and click *Next*.



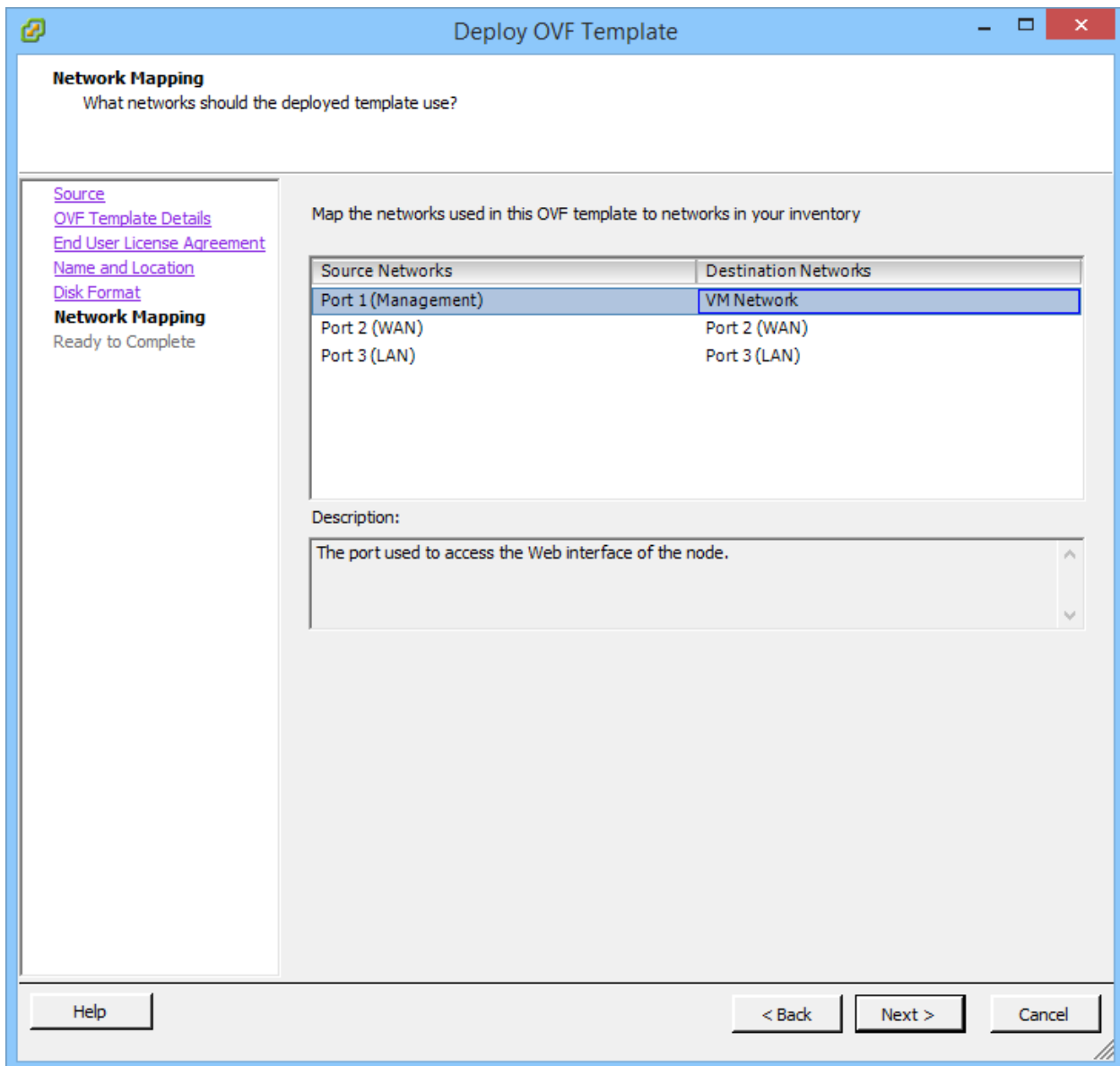
Three network ports will need to be configured and connected to relevant vSwitches.

Clicking on each network port provides information about what each port is to be used for:

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When deploying PORTrockIT in the *Bridged Physically-In-Path* topology, the WAN and LAN ports will be bridged together. Both ports must be isolated from each other to prevent loops being created in the network.

To complete, click on *Next*, and then *Finish*.



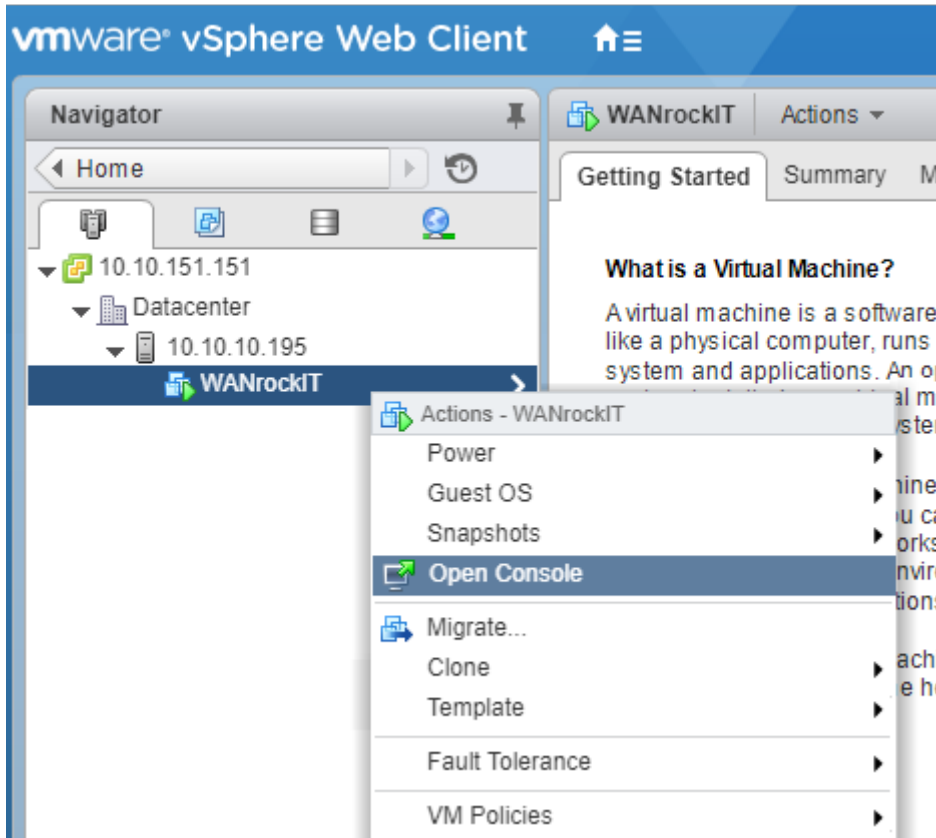
Congratulations, you have finished deploying your Bridgeworks Node.

4 Virtual Console

The console that ESXi provides for a virtual instance allows you to see the interfaces that are available and useful information about them, such as their IP addresses.

4.1 vSphere Web Client

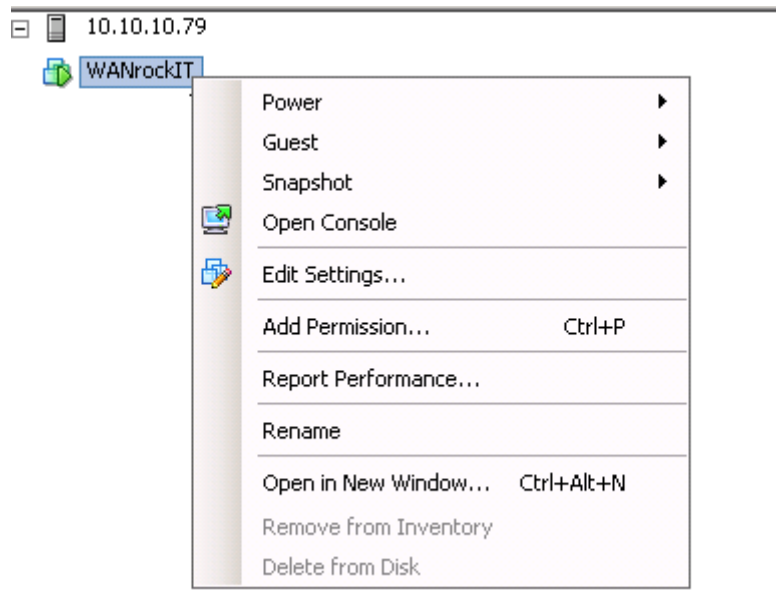
To open the console using vSphere Web Client, right click on the Node and select *Open Console*.



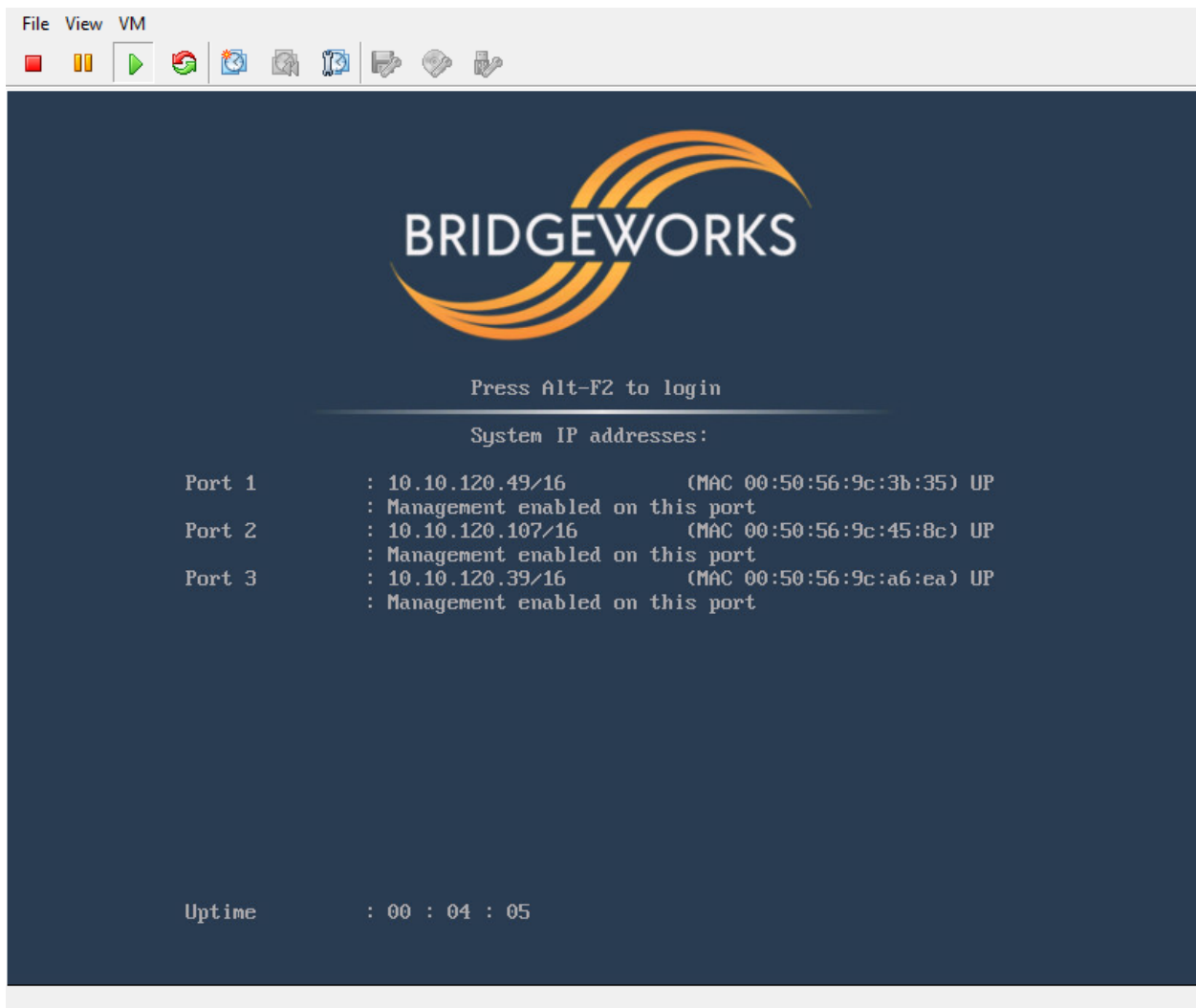
This will display the console in a new browser tab.

4.2 vSphere Client

To open the console using vSphere Client, right click on the Node and select *Open Console*.



A pop-out window will then appear, as shown below.



5 Setting up vSwitches for PORTrockIT in Bridged Physically-In-Path Topology

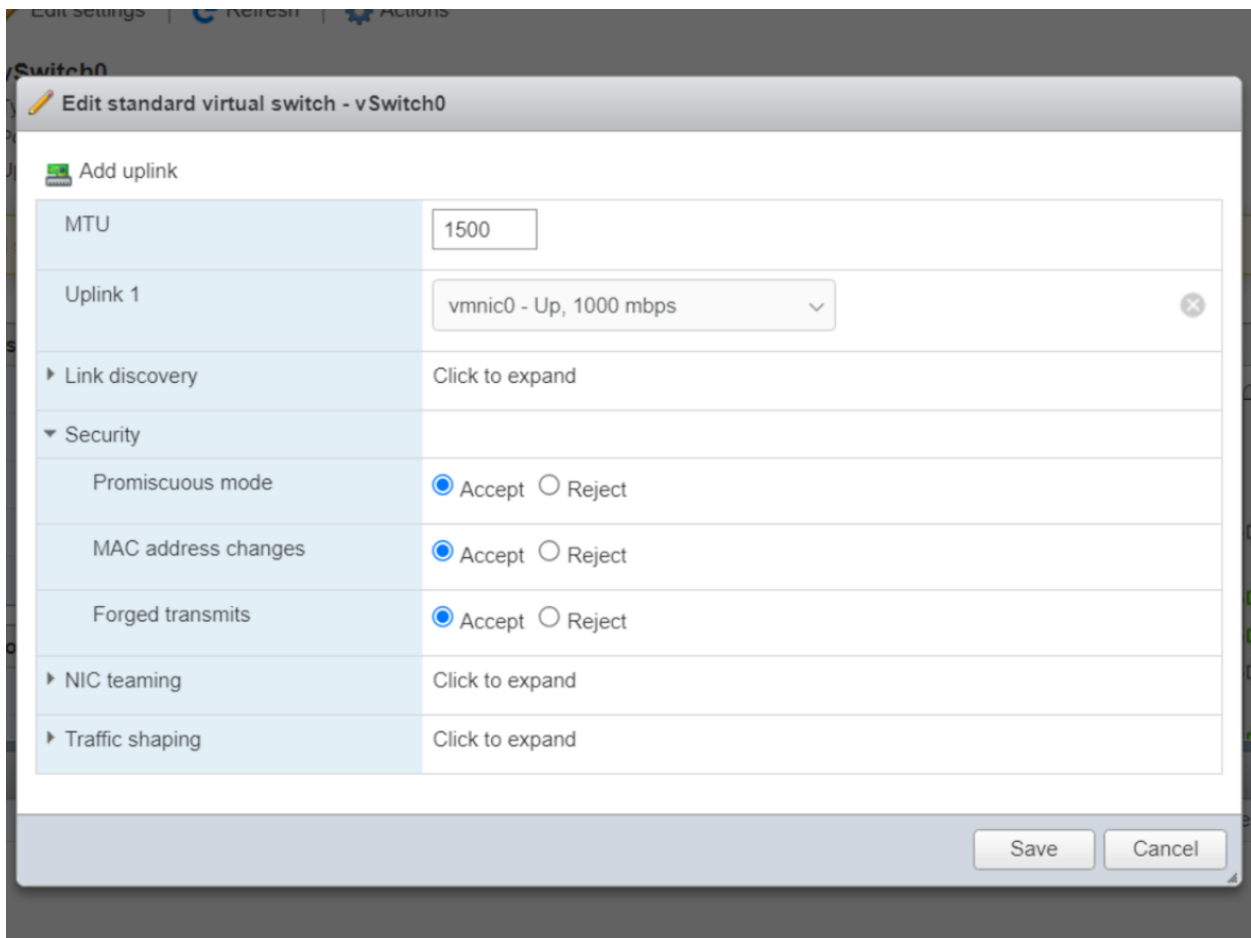
When deploying PORTrockIT in the *Bridged Physically-In-Path* topology, the WAN and LAN ports will be bridged together. This effectively makes the PORTrockIT unit a bump in the wire, making it transparent to the client. For this to work, promiscuous mode must be enabled on the vSwitch connected to the LAN port. Additionally, forged transmits also needs to be enabled on the vSwitch connected to the LAN port so that ESXi does not compare source and effective MAC addresses.

5.1 VMware Host Client

5.1.1 Edit vSwitch configuration for all inheriting port groups

From the web client home page, expand the *Navigator* pane on the left and click on *Networking*. From the *Networking* page click on the tab at the top of the page labelled *Virtual switches* then select the vSwitch that is connected to the LAN port of the Node.

From the vSwitch page, click on *Edit settings* at the top of the page. Once the *Edit standard virtual switch* pane is on the screen, expand the *Security* section as shown in the image below.



Ensure *Accept* is selected for *Promiscuous mode* and *Forged transmits*. Click *Save* and repeat this

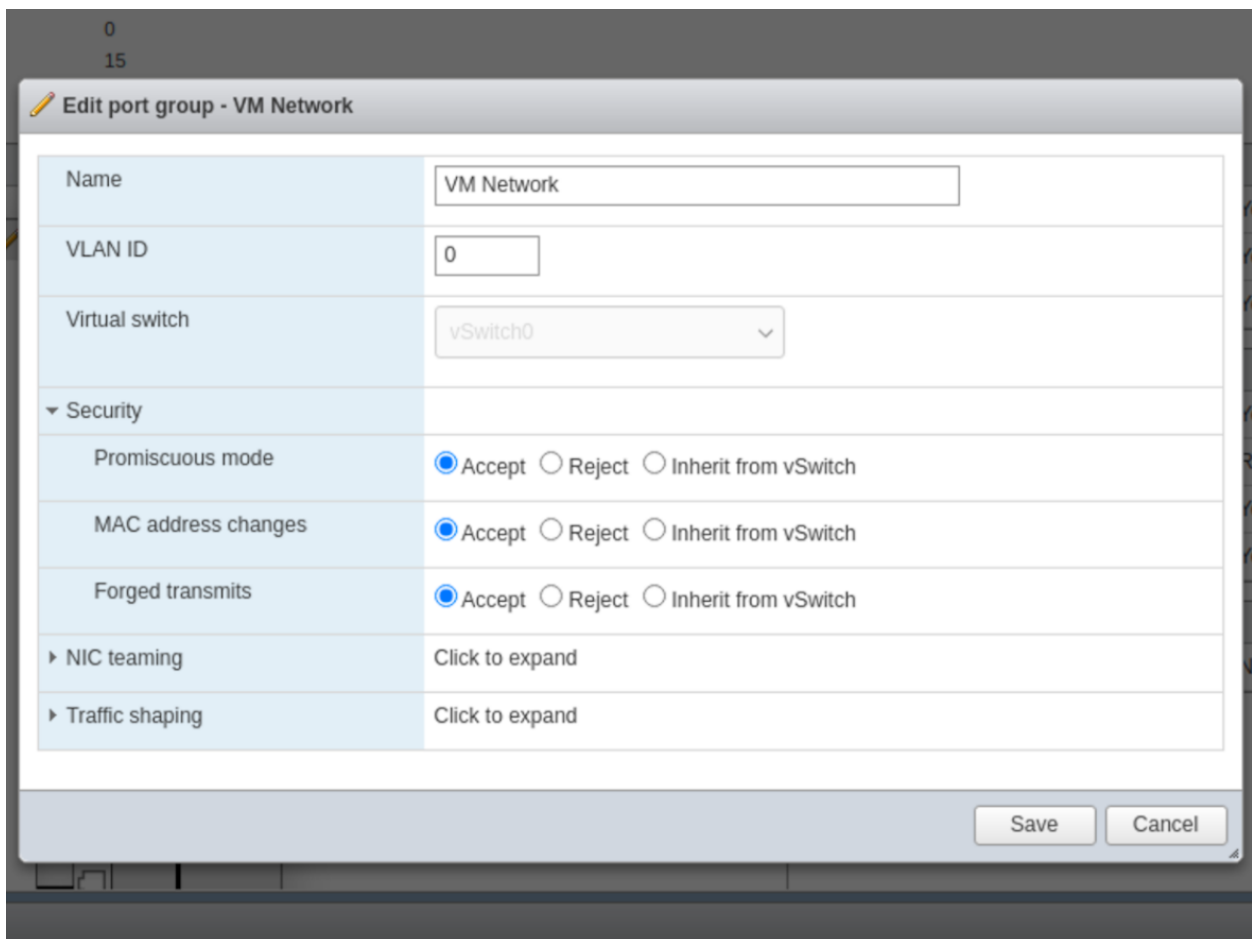
process for the remaining vSwitches.



Important: Individual port groups can override these settings if this would be preferable rather than modifying the settings for the entire vSwitch

5.1.2 Edit individual port group configurations

Navigate back to the *Networking* page and click on the tab at the top of the page labelled *Port Groups*. Choose the port group that is connected to the LAN port of the Node and click on *Edit Settings*. Expand the *Security* tab as shown in the image below and choose either *Accept* or *Inherit from vSwitch* for both *Promiscuous mode* and *Forged transmits*. Only choose *Inherit from vSwitch* if the vSwitch has already been configured correctly.



For more information go to [Edit Virtual Switch Settings in the VMware Host Client](#)

5.2 vSphere vCenter Server

For help with vCenter Server, see [Configure the Security Policy for a vSphere Standard Switch or Standard Port Group](#)

6 Troubleshooting

6.1 Deployment Problems

If an ESXi node has problems deploying, the following steps may help solve the issue.

- Upgrade your ESXi server to the latest minor release.
- Log into your ESXi server using the VMware Host Client UI rather than vSphere Client.
- If you are having problems with the manifest version, run the following command to convert the OVA from SHA1 to SHA256:

```
ovftool.exe --shaAlgorithm=SHA256 /path/to/original_ova_file.ova  
/path/to/new_ova_file.ova
```

More information about installing and using OVF Tool can be found at <https://www.vmware.com/support/developer/ovf/>