ESXi
Deployment Guide
Eli-v6.5.391

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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 7.0 and 8.0 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://customerconnect.vmware.com/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 Web Host

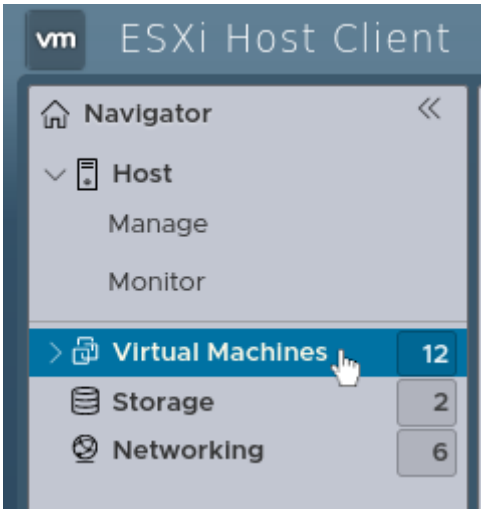
2.1 Introduction

This section details how to deploy a Bridgeworks Node into a VMware environment using the web-based client.

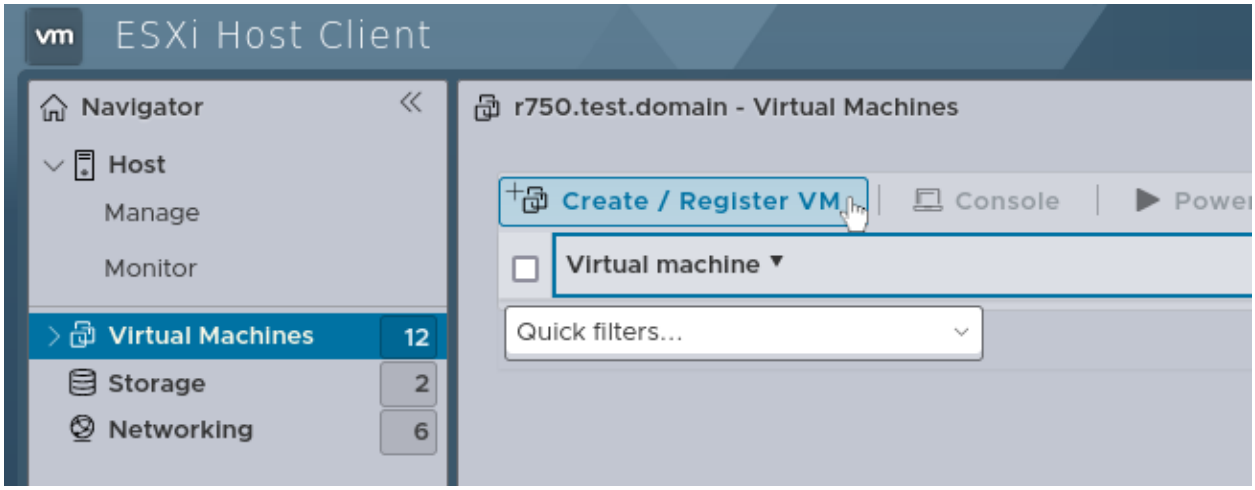
The instructions given in this guide are suitable for deploying a WANrockIT or PORTrockIT Node. For a full guide on OVA deployment, consult the VMware Host Client Documentation.

2.2 Deploying the OVA

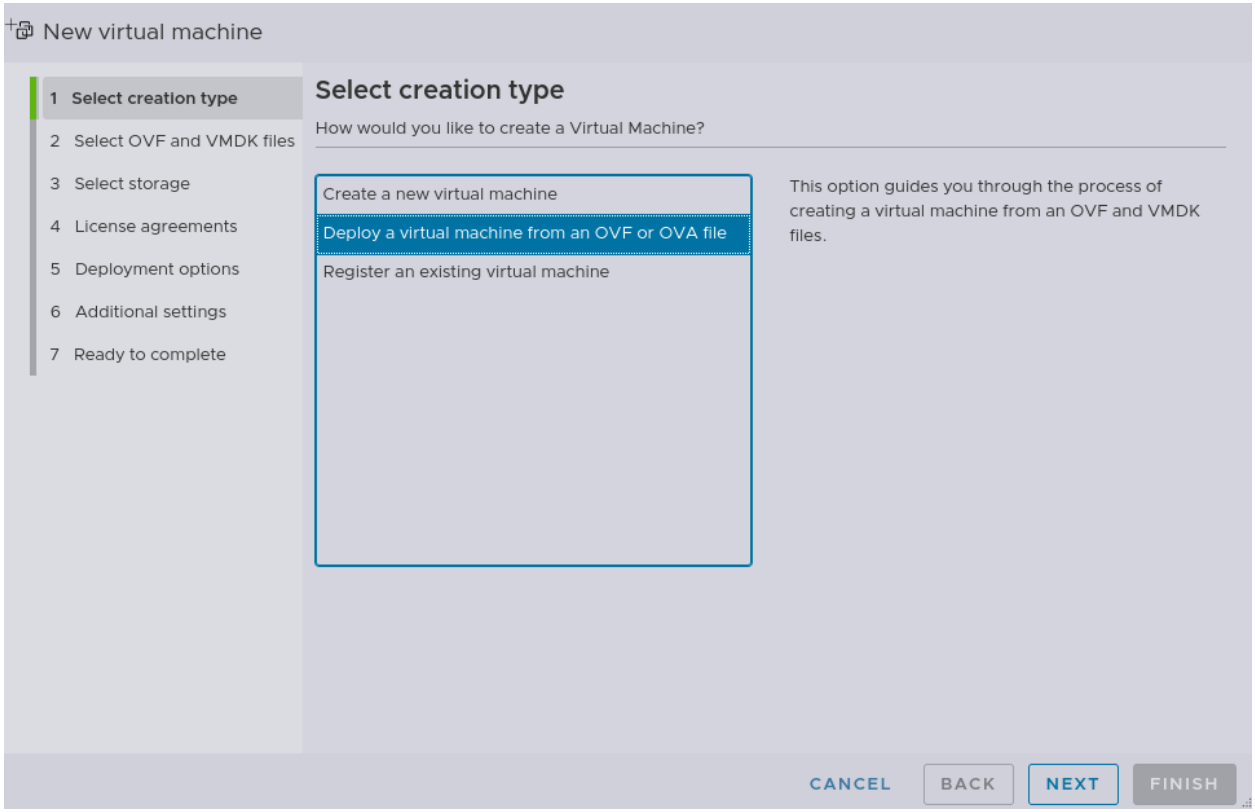
After logging in to the web client, select *Navigator* from the left hand menu and select the *Virtual Machines* tab.



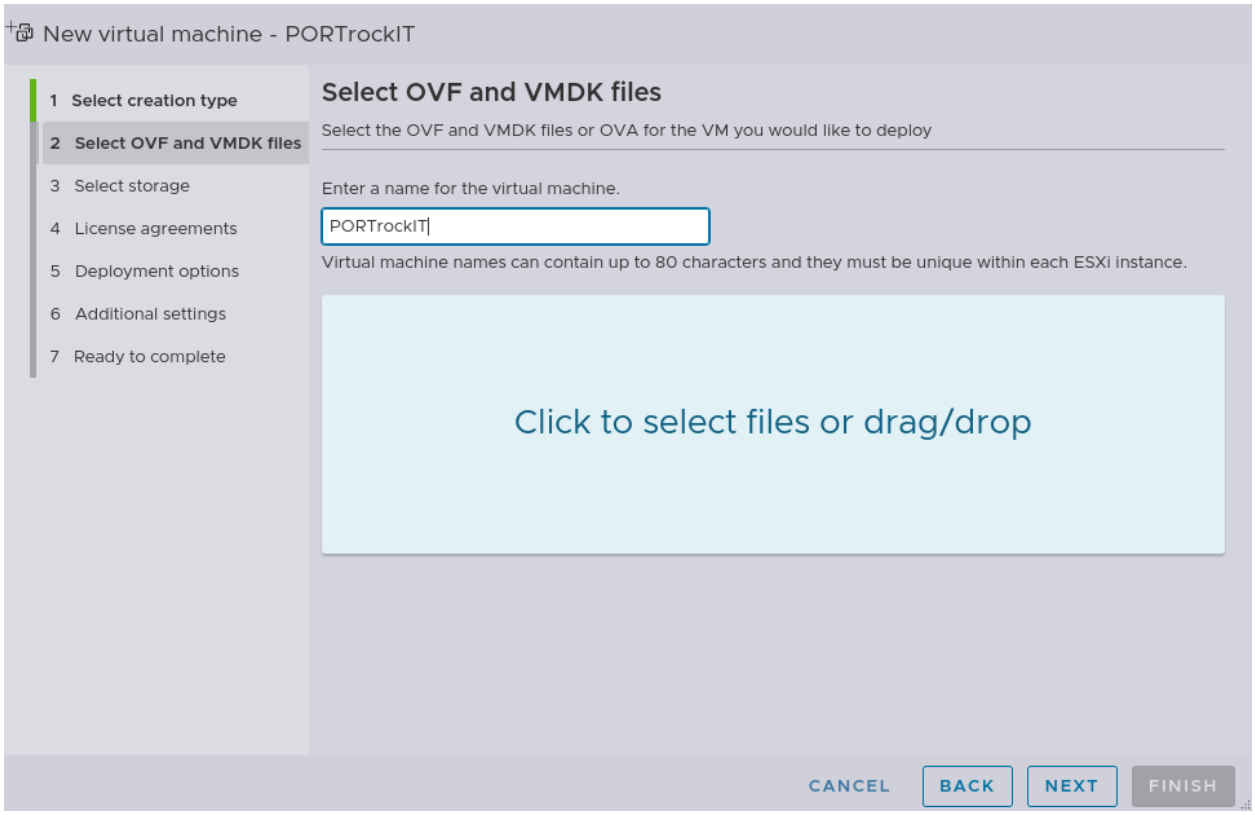
Under the *Virtual Machines* heading, click on the *Create/Register VM* button.



Select *Deploy a virtual machine from an OVF or OVA file*, and click *Next*.

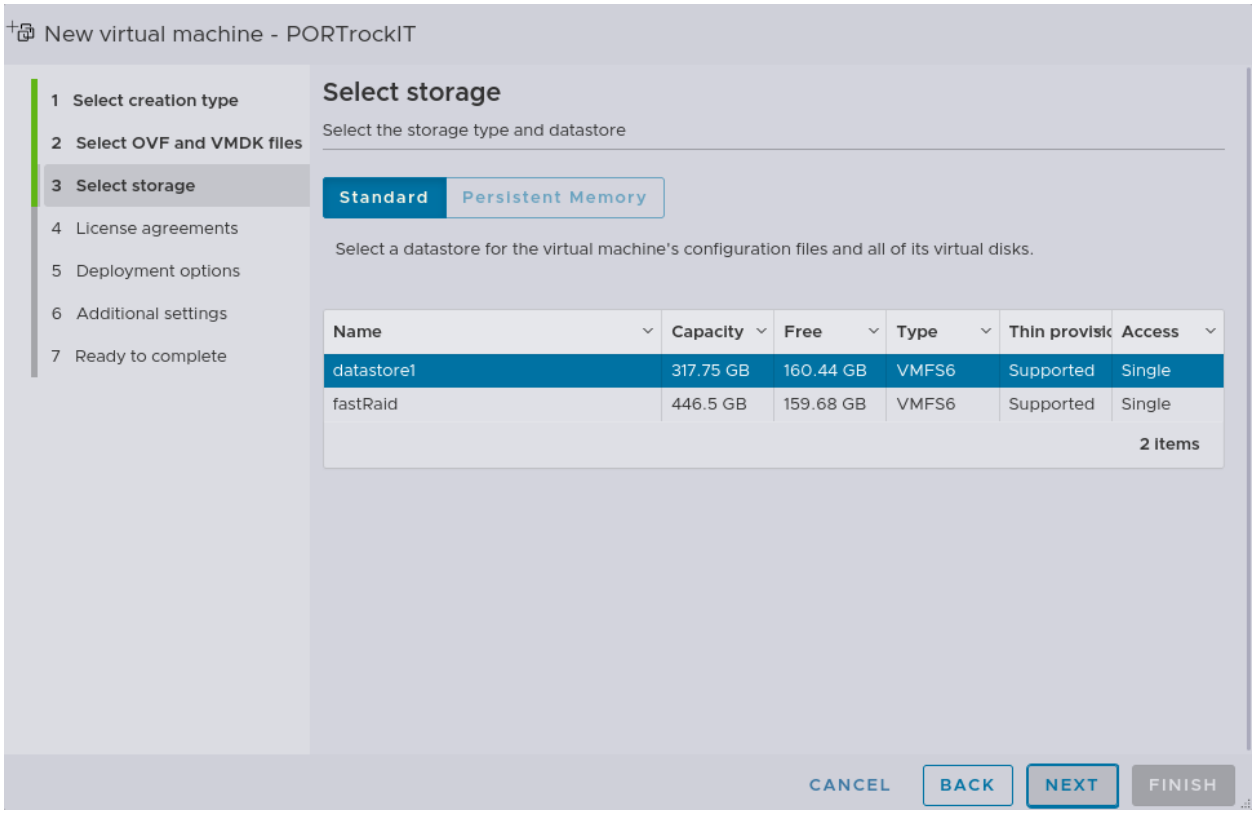


Enter a name for your machine to make it easier to identify in the future. In this example, the Node is named *PORTrockIT*. Click inside the *Click to select files or drag/drop* box. Select the location of the Bridgeworks OVA file, and click *Next*.

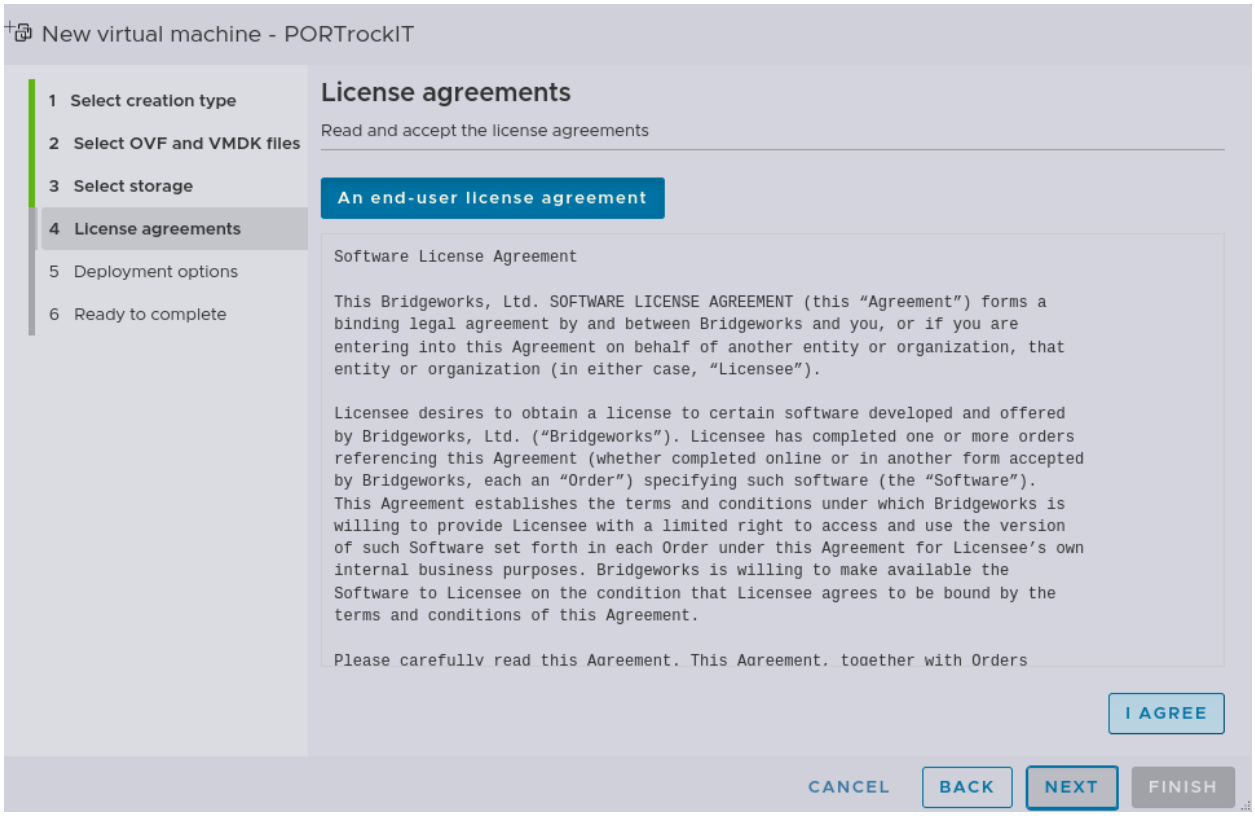


Once the template has loaded, select a datastore with at least 1GB of free space for the virtual

machine and click *Next*



An End User License 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 *I agree* button, and then continue to the following step with the *Next* button.



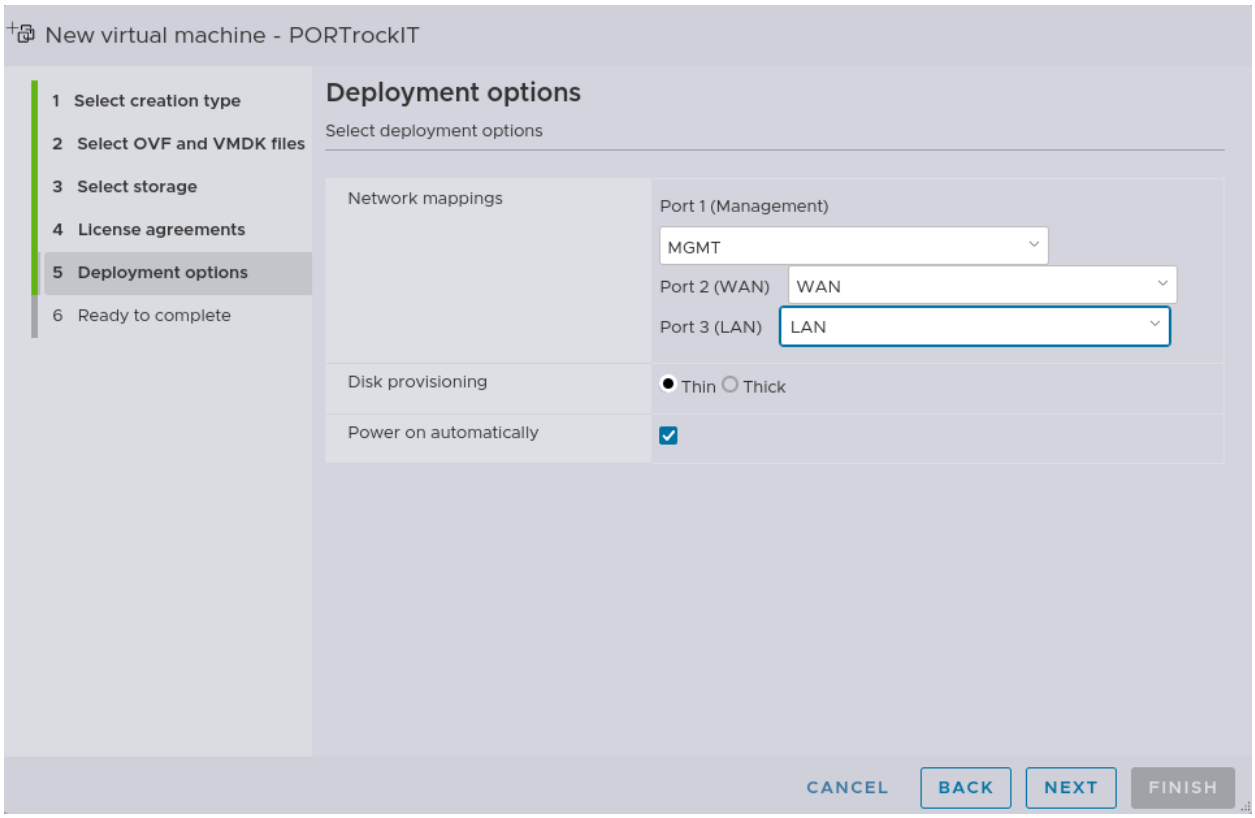
Three network ports will need to be configured and connected to relevant vSwitches.

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

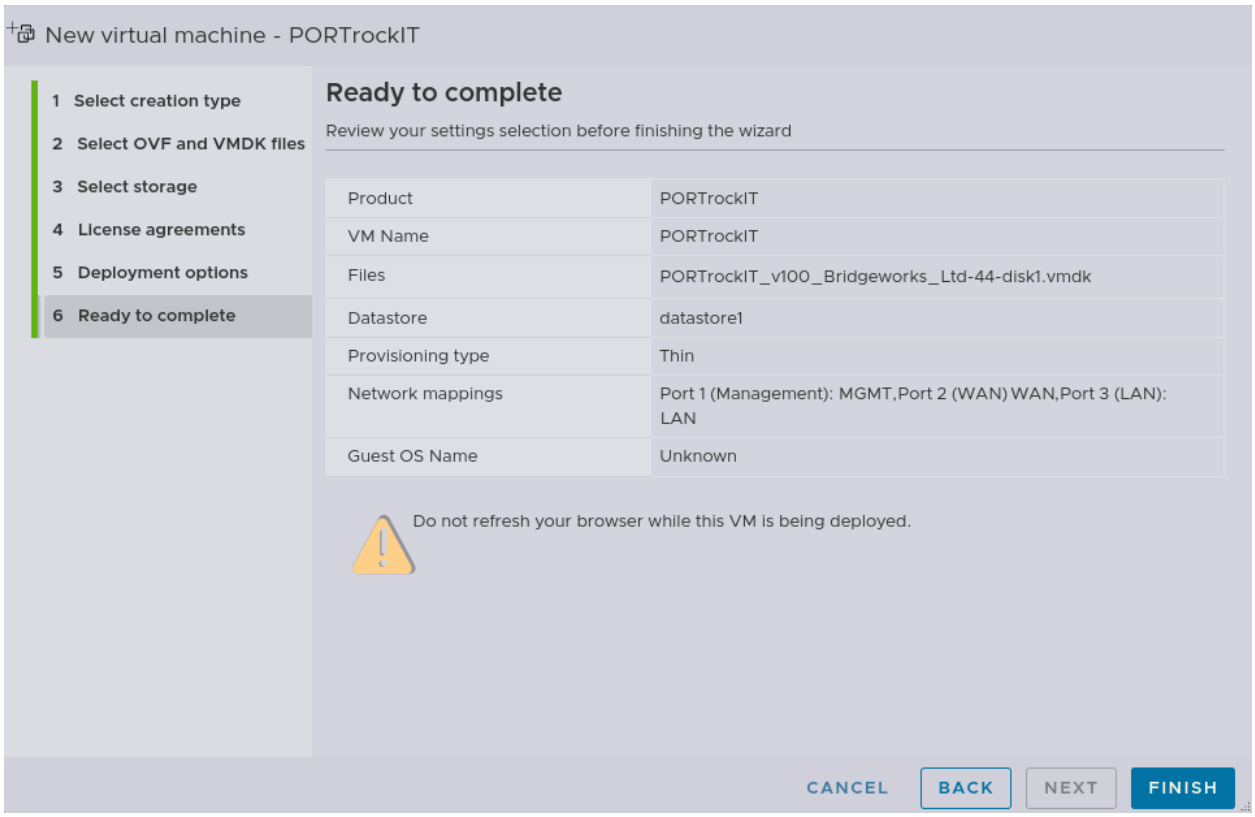
- Port 1 (Management): Used to access the web interface for managing your Node.
- Port 2 (WAN): Used to connect to your other Bridgeworks Node across a WAN link.
- Port 3 (LAN): Used to connect to the device to which you want to apply the acceleration.

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.

The disk provisioning is automatically set to *Thin* meaning only the storage space it needs for its initial operations will be used, expanding into the provisioned space when it needs to. *Thick* provisioning means the entire storage space you allocated is committed to the virtual disk.



Clicking *Next* will show the details of the Node to be deployed. Confirm that the correct product is being deployed, and click *Finish*.



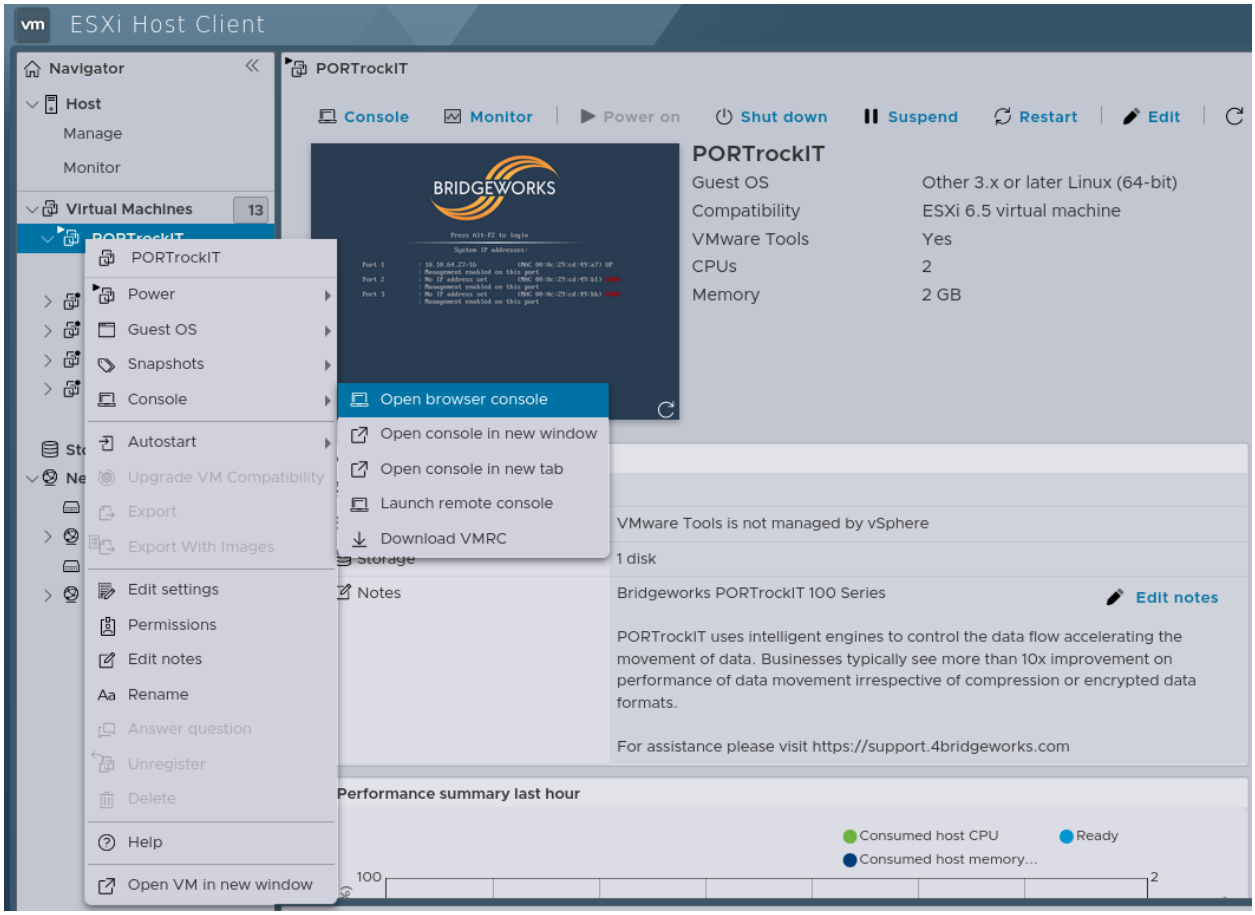
Congratulations, you have finished deploying your Bridgeworks Node.

3 Virtual Console

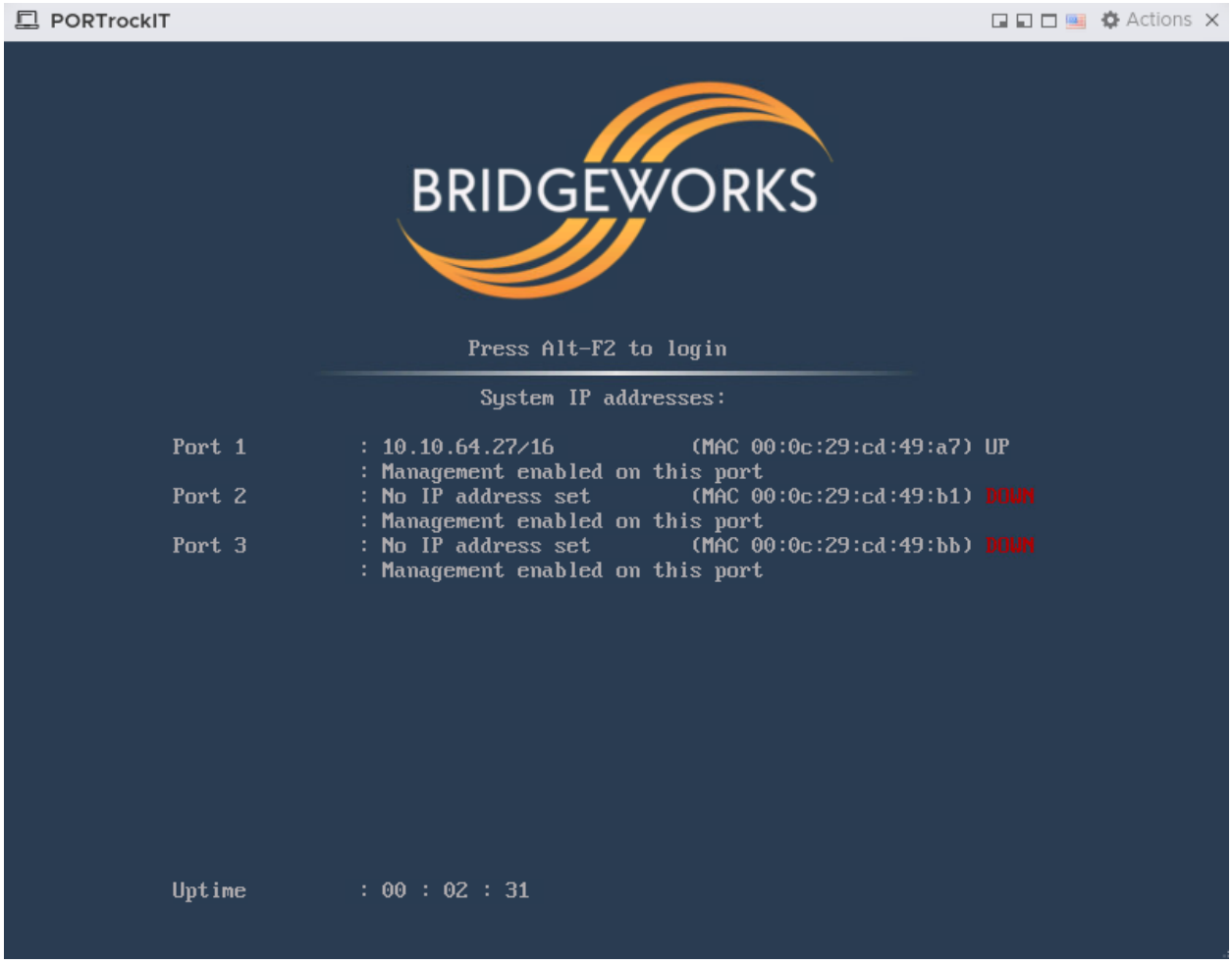
The console that ESXi provides for a virtual instance allows you to see the interfaces that are available and useful information about them, such as their IP addresses.

To open the console, click on the Node and click on the screenshot of the console.

Altenatively, right click on the Node and hover over *Console*, select *Open browser console*.



This will display the console in a pop-out window, as shown below.


PORTrockIT
Actions
BRIDGEWORKS
Press Alt-F2 to login
System IP addresses:
Port 1 : 10.10.64.27/16 (MAC 00:0c:29:cd:49:a7) UP
: Management enabled on this port
Port 2 : No IP address set (MAC 00:0c:29:cd:49:b1) DOWN
: Management enabled on this port
Port 3 : No IP address set (MAC 00:0c:29:cd:49:bb) DOWN
: Management enabled on this port
Uptime : 00 : 02 : 31

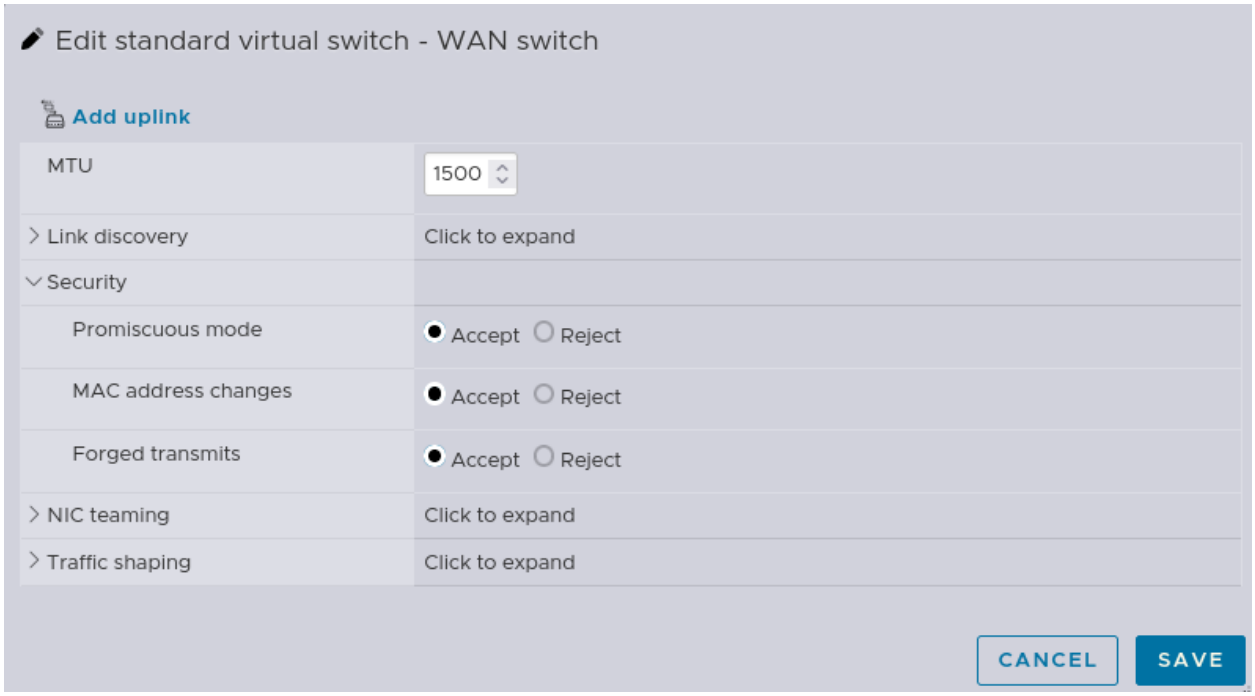
4 Setting up vSwitches for PORTrockIT in Bridged Physically-In-Path Topology

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.

4.1 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.

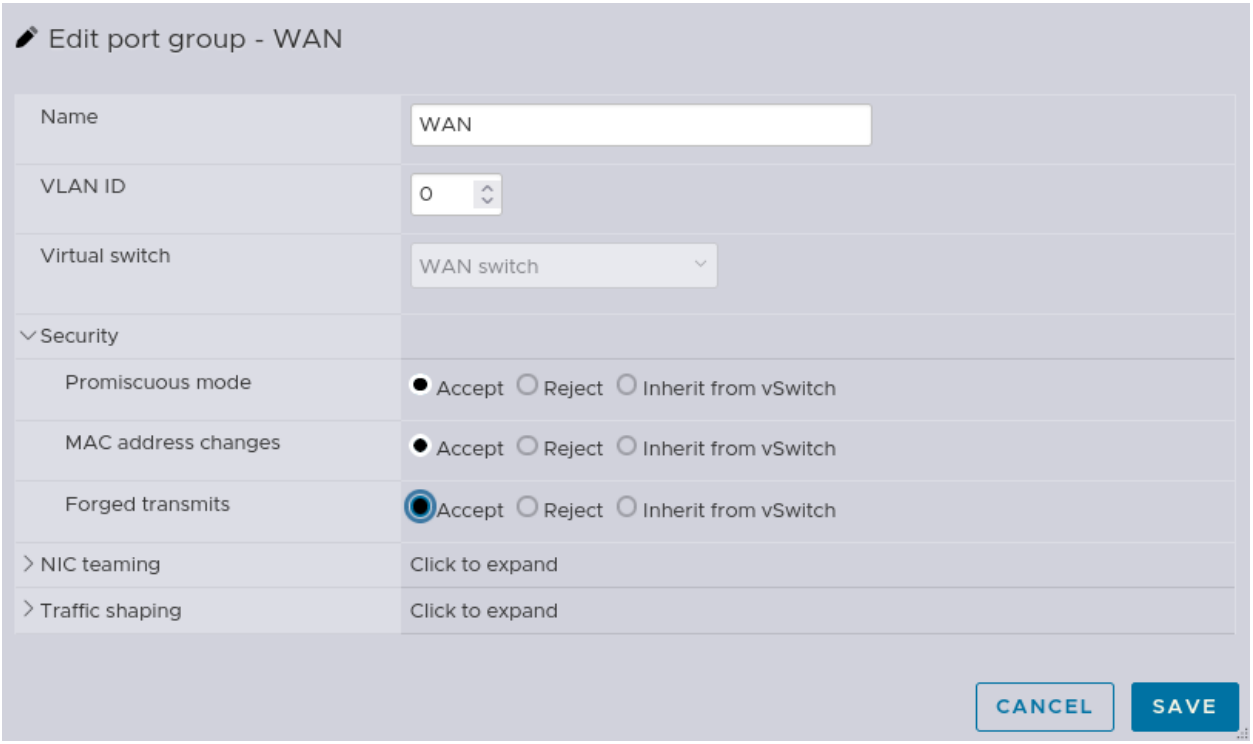


Ensure *Accept* is selected for *Promiscuous mode* and *Forged transmits*. Click *Save* and repeat this process for the remaining vSwitches.

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

4.2 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 Troubleshooting

5.1 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.
- 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://developer.vmware.com/tool/ovf

6 Useful Links

Further documentation and support is available through our website: https://support.4bridgeworks.com/

If your question is not answered in our documentation, please submit a ticket: https://support.4bridgeworks.com/contact/