



ESXi Deployment Guide Eli-v6.5.391

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 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

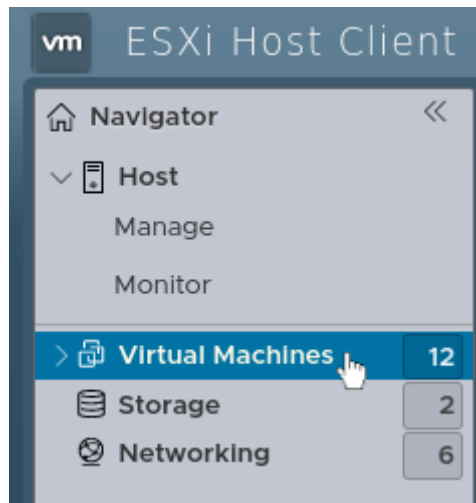
2.1 Introduction

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

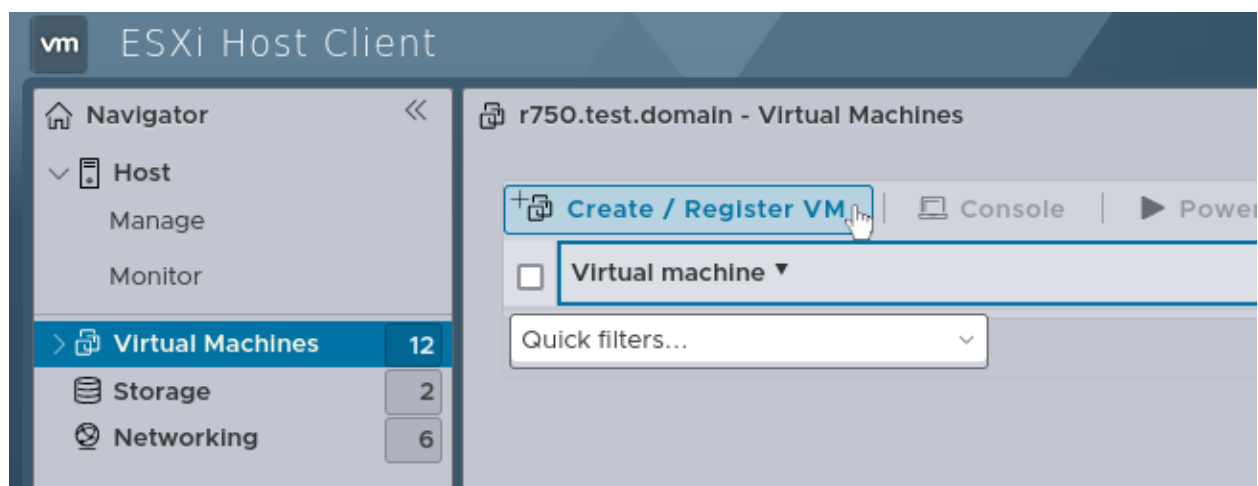
The instructions given in this guide are suitable for deploying a WANrockIT or PORTrockIT Node. For a full guide on OVA deployment, consult [the VMware Host Client Documentation](#).

2.2 Deploying the OVA

After logging in to the web client, select *Navigators* 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*.

New virtual machine

- Select creation type**
- Select OVF and VMDK files
- Select storage
- License agreements
- Deployment options
- Additional settings
- Ready to complete

Select creation type

How would you like to create a Virtual Machine?

Create a new virtual machine

Deploy a virtual machine from an OVF or OVA file

Register an existing virtual machine

This option guides you through the process of creating a virtual machine from an OVF and VMDK files.

CANCEL BACK NEXT FINISH

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*.

New virtual machine - PORTrockIT

- Select creation type
- Select OVF and VMDK files**
- Select storage
- License agreements
- Deployment options
- Additional settings
- Ready to complete

Select OVF and VMDK files

Select the OVF and VMDK files or OVA for the VM you would like to deploy

Enter a name for the virtual machine.

PORTrockIT

Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.

Click to select files or drag/drop

CANCEL BACK NEXT FINISH

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

machine and click *Next*

The screenshot shows the 'Select storage' step of a wizard. On the left is a sidebar with steps 1 through 7. Step 3, 'Select storage', is highlighted. The main area is titled 'Select storage' and includes a sub-header 'Select the storage type and datastore'. There are two tabs: 'Standard' (selected) and 'Persistent Memory'. Below the tabs is a text prompt: 'Select a datastore for the virtual machine's configuration files and all of its virtual disks.' A table lists available datastores:

Name	Capacity	Free	Type	Thin provision	Access
datastore1	317.75 GB	160.44 GB	VMFS6	Supported	Single
fastRaid	446.5 GB	159.68 GB	VMFS6	Supported	Single

At the bottom right of the table area, it says '2 Items'. At the bottom of the wizard are buttons for 'CANCEL', 'BACK', 'NEXT', and 'FINISH'.

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.

The screenshot shows the 'License agreements' step of the wizard. The sidebar highlights step 4, 'License agreements'. The main area is titled 'License agreements' with the sub-header 'Read and accept the license agreements'. A tab labeled 'An end-user license agreement' is selected. The content area displays the 'Software License Agreement' text:

Software License Agreement

This Bridgeworks, Ltd. SOFTWARE LICENSE AGREEMENT (this "Agreement") forms a binding legal agreement by and between Bridgeworks and you, or if you are entering into this Agreement on behalf of another entity or organization, that entity or organization (in either case, "Licensee").

Licensee desires to obtain a license to certain software developed and offered by Bridgeworks, Ltd. ("Bridgeworks"). Licensee has completed one or more orders referencing this Agreement (whether completed online or in another form accepted by Bridgeworks, each an "Order") specifying such software (the "Software"). This Agreement establishes the terms and conditions under which Bridgeworks is willing to provide Licensee with a limited right to access and use the version of such Software set forth in each Order under this Agreement for Licensee's own internal business purposes. Bridgeworks is willing to make available the Software to Licensee on the condition that Licensee agrees to be bound by the terms and conditions of this Agreement.

Please carefully read this Agreement. This Agreement, together with Orders

At the bottom right of the text area is a button labeled 'I AGREE'. At the bottom of the wizard are buttons for 'CANCEL', 'BACK', 'NEXT', and 'FINISH'.

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.

New virtual machine - PORTrockIT

1 Select creation type
2 Select OVF and VMDK files
3 Select storage
4 License agreements
5 Deployment options
6 Ready to complete

Deployment options

Select deployment options

Network mappings	Port 1 (Management) MGMT Port 2 (WAN) WAN Port 3 (LAN) LAN
Disk provisioning	<input checked="" type="radio"/> Thin <input type="radio"/> Thick
Power on automatically	<input checked="" type="checkbox"/>

CANCEL BACK NEXT FINISH

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

New virtual machine - PORTrockIT

1 Select creation type

2 Select OVF and VMDK files

3 Select storage

4 License agreements


5 Deployment options

6 Ready to complete

Ready to complete

Review your settings selection before finishing the wizard

Product	PORTrockIT
VM Name	PORTrockIT
Files	PORTrockIT_v100_Bridgeworks_Ltd-44-disk1.vmdk
Datastore	datastore1
Provisioning type	Thin
Network mappings	Port 1 (Management): MGMT,Port 2 (WAN) WAN,Port 3 (LAN): LAN
Guest OS Name	Unknown

 Do not refresh your browser while this VM is being deployed.

CANCEL

BACK

NEXT

FINISH

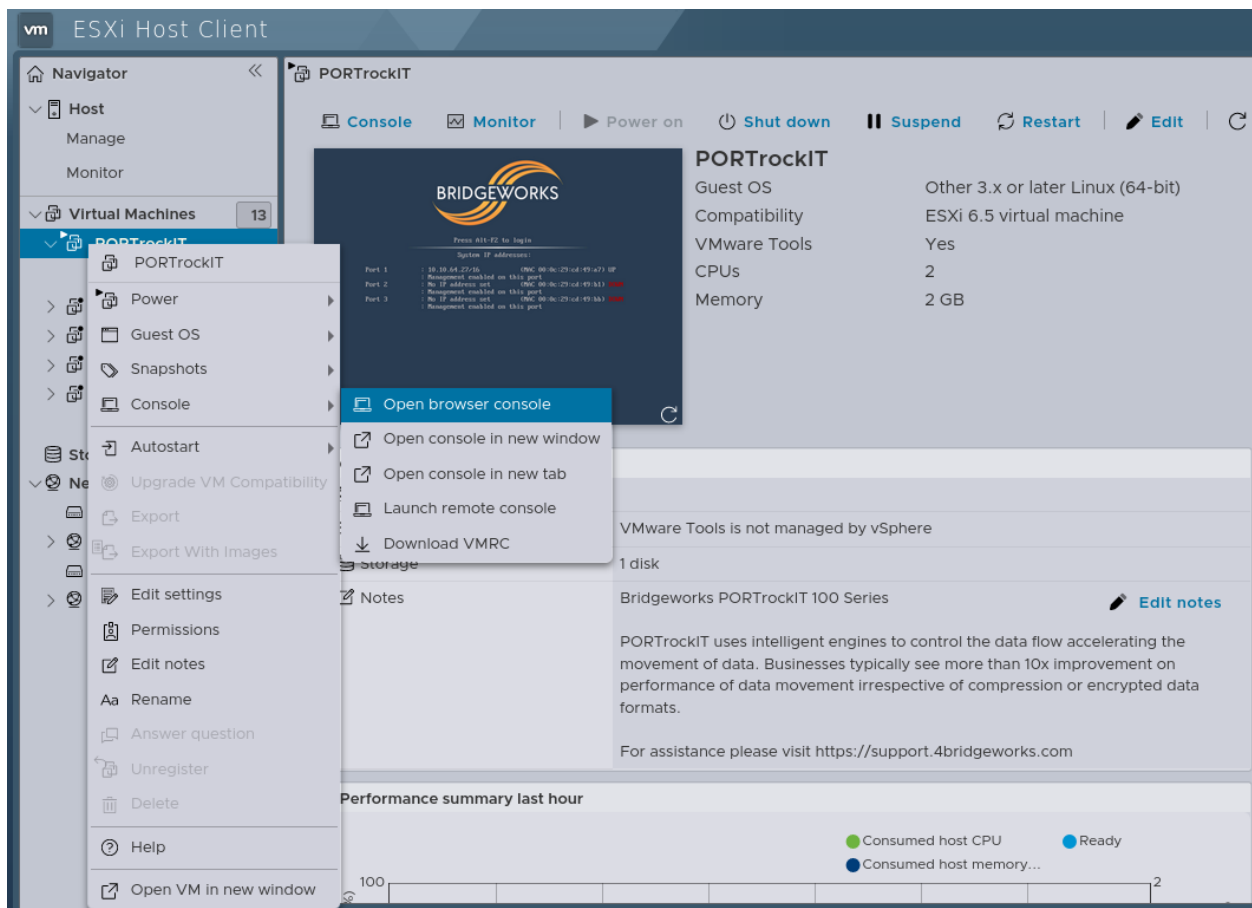
Congratulations, you have finished deploying your Bridgeworks Node.

3 Virtual Console

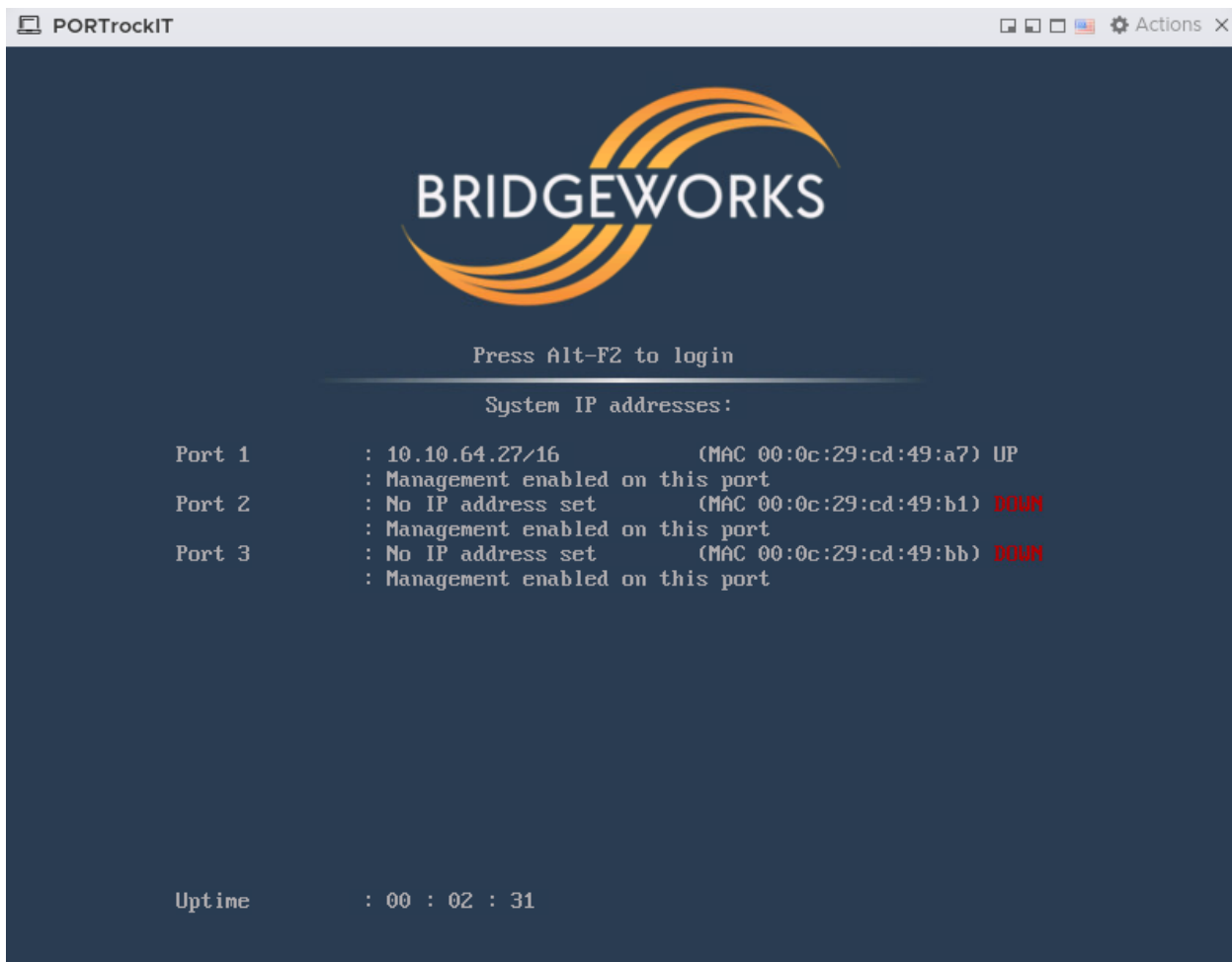
The console that ESXi provides for a virtual instance allows you to see the interfaces that are available and useful information about them, such as their IP addresses.

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

Alternatively, 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.



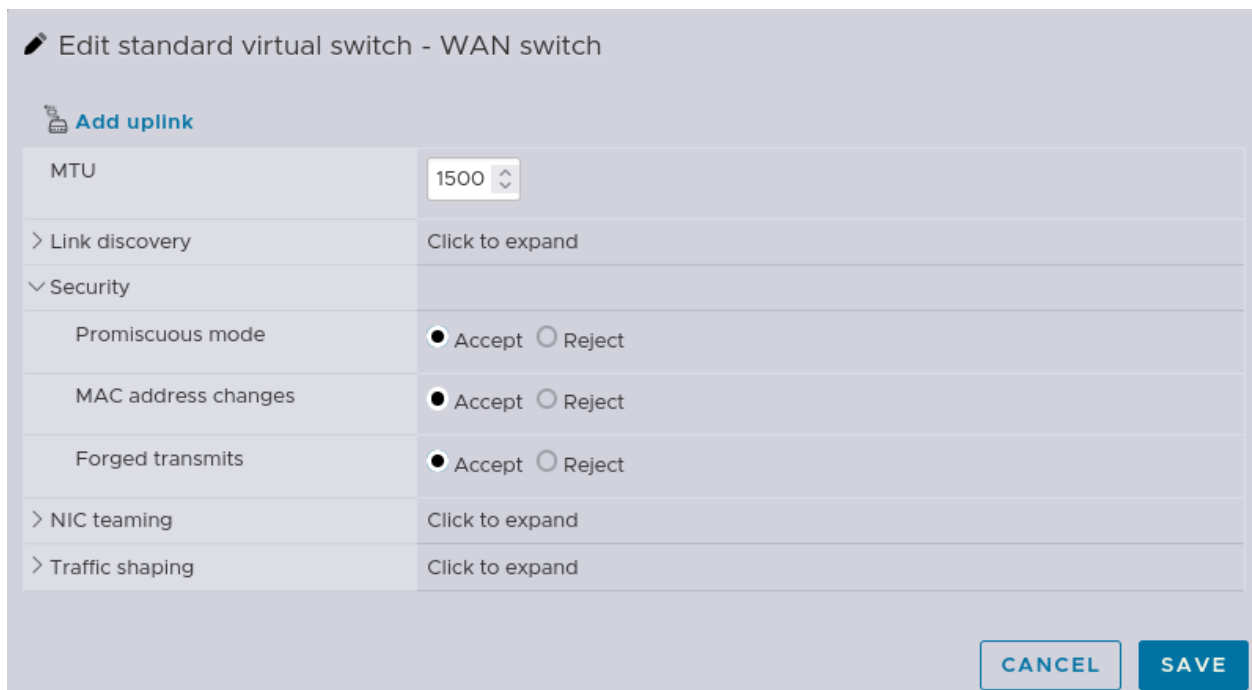
4 Setting up vSwitches for PORTrockIT in Bridged Physically-In-Path Topology

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.



Edit standard virtual switch - WAN switch

 **Add uplink**

MTU	1500
> Link discovery	Click to expand
▼ Security	
Promiscuous mode	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
MAC address changes	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
Forged transmits	<input checked="" type="radio"/> Accept <input type="radio"/> Reject
> NIC teaming	Click to expand
> Traffic shaping	Click to expand

CANCEL **SAVE**

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.

Edit port group - WAN

Name	WAN
VLAN ID	0
Virtual switch	WAN switch
▼ Security	
Promiscuous mode	<input checked="" type="radio"/> Accept <input type="radio"/> Reject <input type="radio"/> Inherit from vSwitch
MAC address changes	<input checked="" type="radio"/> Accept <input type="radio"/> Reject <input type="radio"/> Inherit from vSwitch
Forged transmits	<input checked="" type="radio"/> Accept <input type="radio"/> Reject <input type="radio"/> Inherit from vSwitch
> NIC teaming	Click to expand
> Traffic shaping	Click to expand

CANCEL **SAVE**

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/>