

# Deploying SteelHead-V on GNS3

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Validate your deployment and learn the technology



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# Introduction

## Purpose

This document will guide you through the deployment of SteelHead-V on GNS3.

## Audience

This document is intended to guide Network Professionals who wants to learn about Application Acceleration or validate designs in a virtual environment.

## GNS3

GNS3 is a network software emulator that is used by thousands of network engineers to simulate complex network topologies, learn new technologies as well as prepare professional certifications.

GNS3 is a free tool that can be downloaded from the [GNS3 website](#).

## SteelHead-V

SteelHead-V is the virtual form factor of the multi-awards winning Application Acceleration appliance Riverbed SteelHead. It is available as a virtual solution on most major hypervisors including VMware vSphere, Microsoft Hyper-V and KVM.

Free-Trials are available on the [Riverbed website](#) from where you can get a 90-day license.

For additional references on the product including deployment guide, configuration guide and how-to videos visit [Riverbed Support website](#) and its [Youtube channel](#).

A question, a problem, ask the [community](#)!

# Installation steps

## Download SteelHead KVM image

Once you have a valid license (trial, subscription-based or perpetual), you can download the image from the [Riverbed Support website](#).

Look for “Next Generation Virtual Steelhead VCX Software Image (KVM)”

Software	Related Software	Documentation	Technical Notes
Display Version: 9.9.0a			
Software Description	Models	Release	Downloads
Next Generation Virtual Steelhead VCX Software Image (Hyper-V) Version 9.9.0a (64-bit)	Models next generation VCX	May 8, 2019	<a href="#">Software (0.93 GB)</a> <a href="#">Checksum</a> <a href="#">*Alert*</a> <a href="#">Release Notes</a>
Next Generation Virtual Steelhead VCX Software Image (KVM) Version 9.9.0a (64-bit)	Models next generation VCX	May 8, 2019	<a href="#">Software (674.3 MB)</a> <a href="#">Checksum</a> <a href="#">*Alert*</a> <a href="#">Release Notes</a>
Next Generation Virtual Steelhead VCX Software Image (OVA) – Includes support for FIPS mode Version 9.9.0a (64-bit)	Models next generation VCX	May 8, 2019	<a href="#">Software (1.15 GB)</a> <a href="#">Checksum</a> <a href="#">*Alert*</a> <a href="#">Release Notes</a>

Figure 1 Software image to download

Once the image is downloaded, extrat the archive and you will get the following files:





Name	Date Modified	Size	Kind
 install.sh	Apr 29, 2019 at 11:47 PM	21 KB	shell script
 mgmt.qcow2	Apr 30, 2019 at 12:05 AM	2.05 GB	Document
 riverbed_encs_package_gen.py	Apr 29, 2019 at 11:47 PM	7 KB	Python script
 riverbed_model_tmp	Apr 29, 2019 at 11:47 PM	1 KB	TextEdi...cument

Figure 2 Files in the archive

## Check appliance specs

The document “*riverbed\_model\_tmp*” lists the specs (CPU, RAM, Disks) for the different models. You will need those figures to configure your image accordingly.

```

VCX10 = New-Model 1 2048MB 20GB 50GB 50GB;
VCX20 = New-Model 1 2048MB 20GB 80GB 80GB;
VCX30 = New-Model 1 2048MB 20GB 100GB 100GB;
VCX40 = New-Model 2 4096MB 26GB 150GB 150GB;
VCX50 = New-Model 4 8192MB 38GB 400GB 400GB;
VCX60 = New-Model 4 8192MB 38GB 400GB 400GB;
VCX70 = New-Model 6 24576MB 70GB 800GB 80GB;
VCX80 = New-Model 12 32768MB 86GB 1600GB 160GB;
VCX90 = New-Model 24 49152MB 118GB 2240GB 160GB;
VCX100 = New-Model 32 65536MB 160GB 3600GB 300GB;
VCX110 = New-Model 44 131072MB 300GB 4800GB 300GB;

```

Figure 3 SteelHead appliance specs

As per the above, a VCX-10 will need:

- 1 vCPU
- 2 Gb of RAM
- A first disk of 20Gb for the OS
- A second disk of 50 Gb for the data store
- A third disk for 50Gb for the data store

In addition, you will need a minimum of 4 NICs on the virtual appliance.

## Import the SteelHead-V in GNS3

Start your GNS3 client and connect it to your server. Edit “*Preferences*” and select “*QEMU > Qemu VMS*” menu. Click new to create a new image.

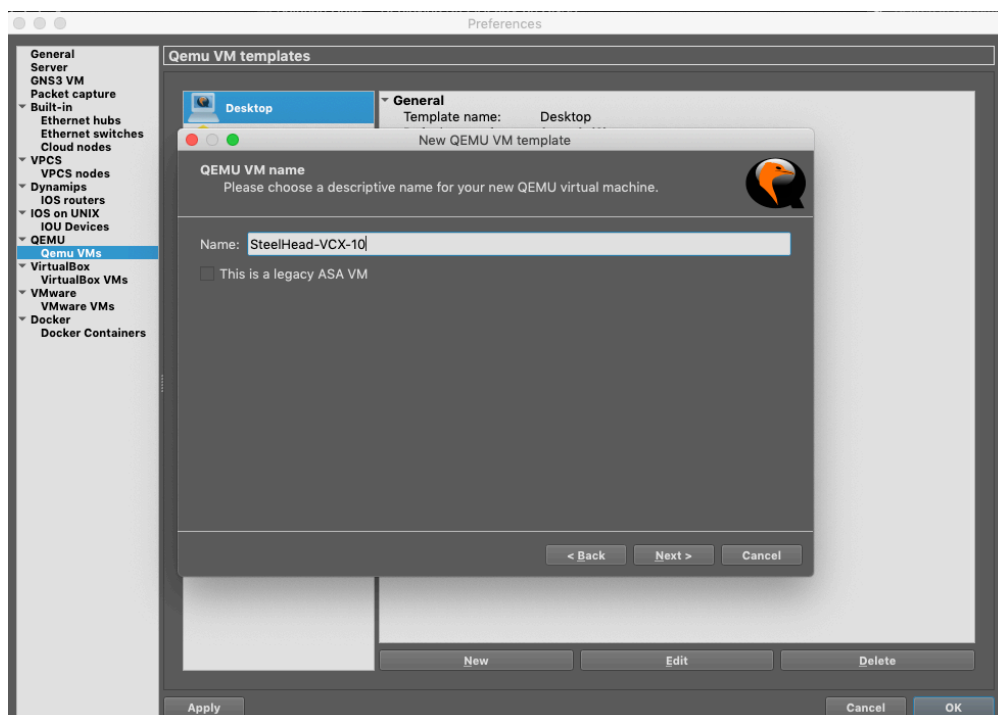


Figure 4 Create a new image

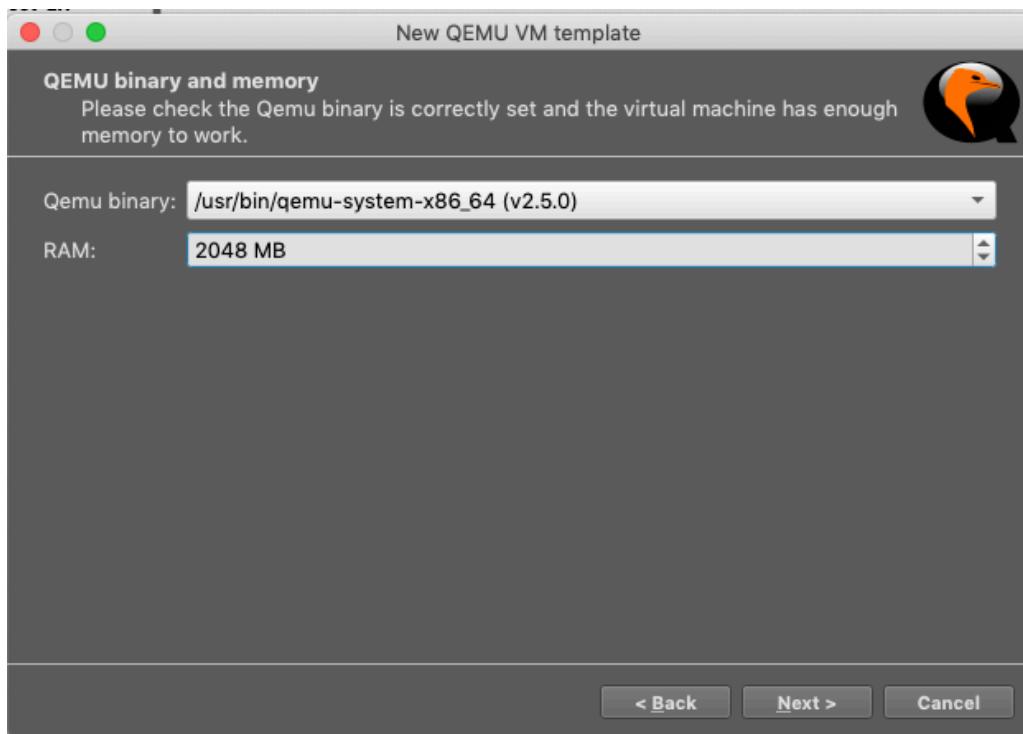


Figure 5 Configure RAM as per the specs

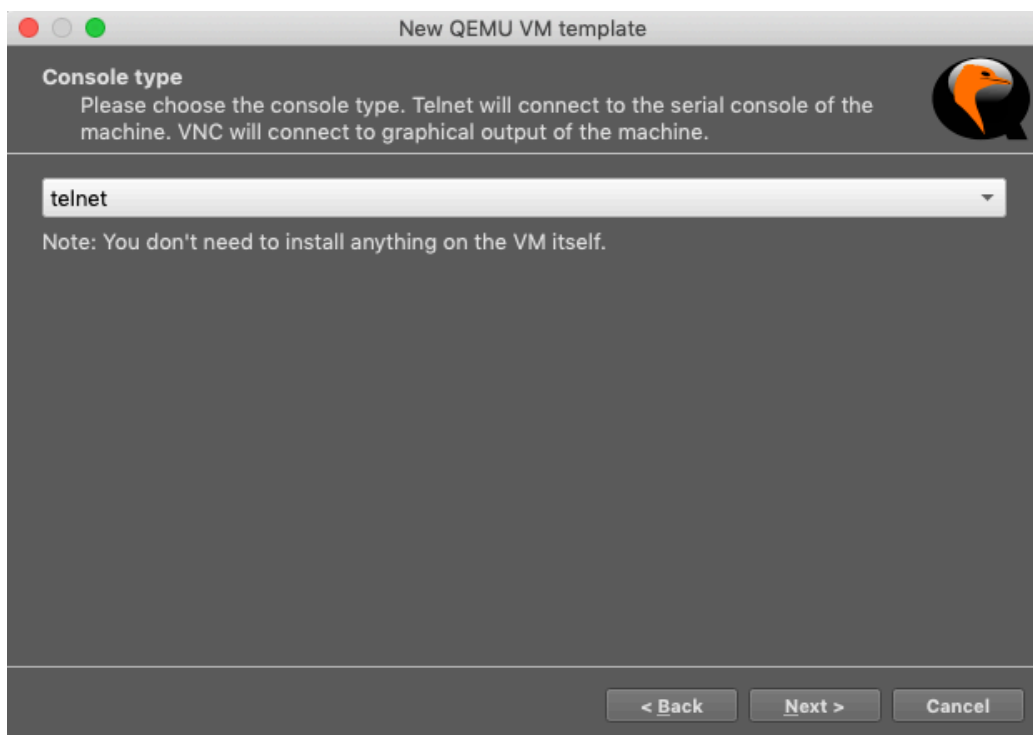


Figure 6 Use telnet for console access

Select the *'mgmt.qcow2'* file you extracted earlier from the archive. The image will be automatically uploaded on your GNS3 server. Depending on latency and bandwidth available, it could take a while.

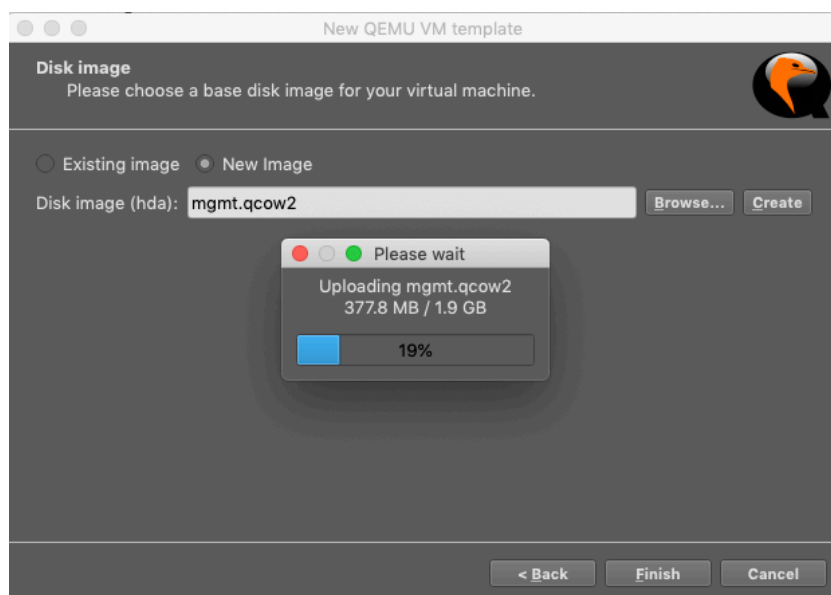


Figure 7 Upload image file

We need to tune the image before being able to use it. Select the SteelHead image from the list and click “Edit”.

You can change the symbol to use Riverbed SteelHead’s icon by downloading from [Riverbed’s GitHub](#) and following [GNS3 documentation](#).



Figure 8 Customize General settings

On the “HDD” tab, **create** two disks (Primary Slave and Secondary Slave) as per the specs table and use “virtio” as the disk interface.

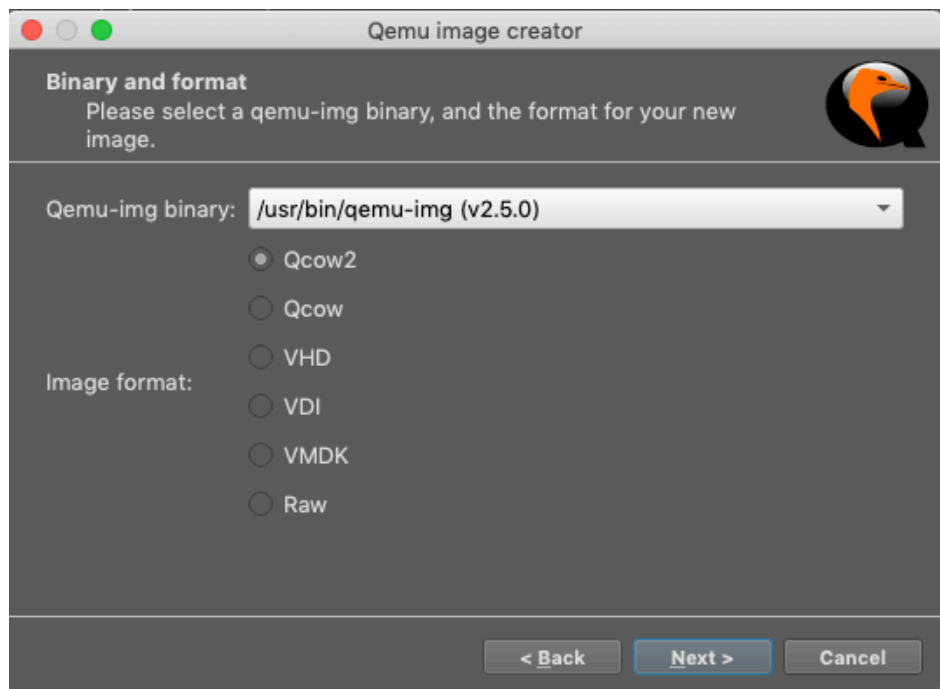


Figure 9 Create a qcow2 disk

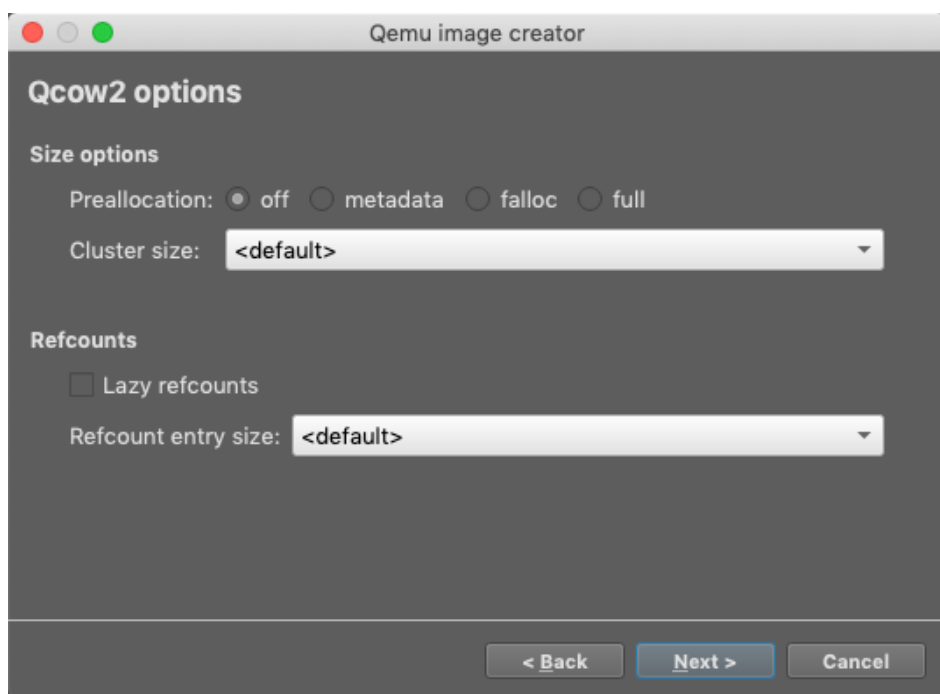


Figure 10 Qcow2 options



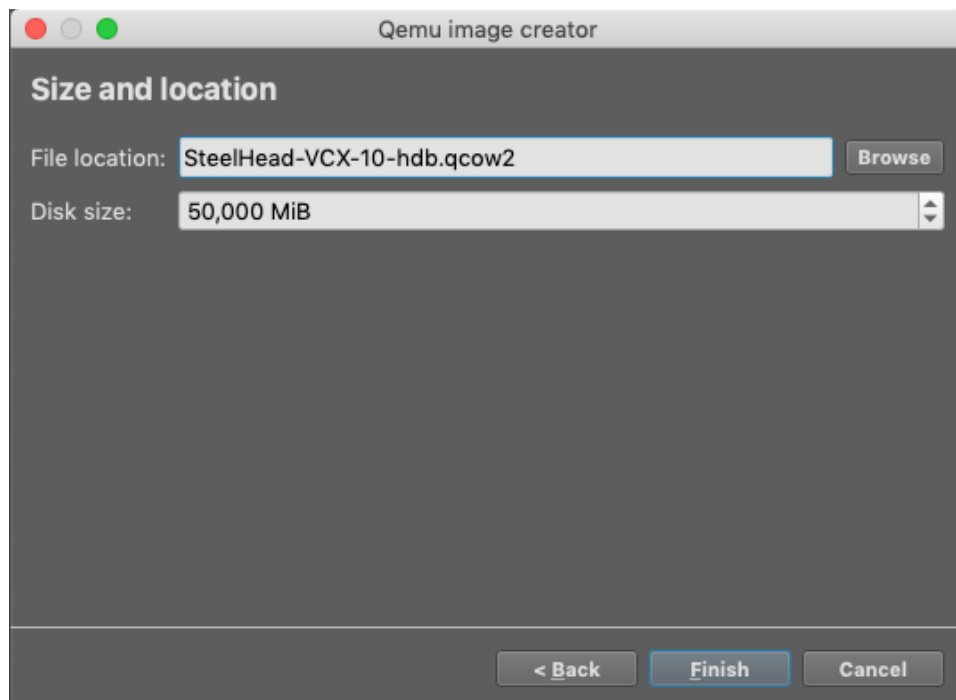


Figure 11 Size of additional disk

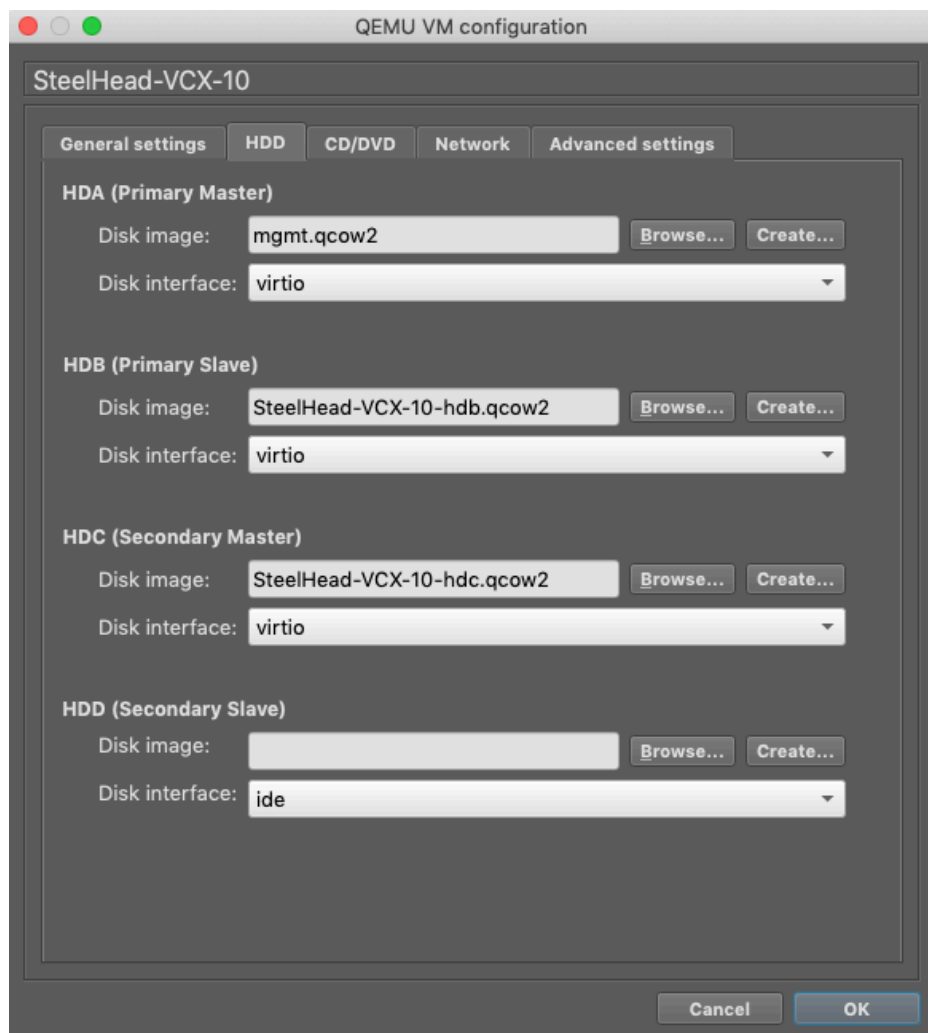


Figure 12 HDD settings

Edit Network settings and add at least 4 adapters. *Change the type to “Paravirtualized Network I/O”*



Figure 13 Network settings

Once it is complete, click OK. Your configuration will look like as per the below.

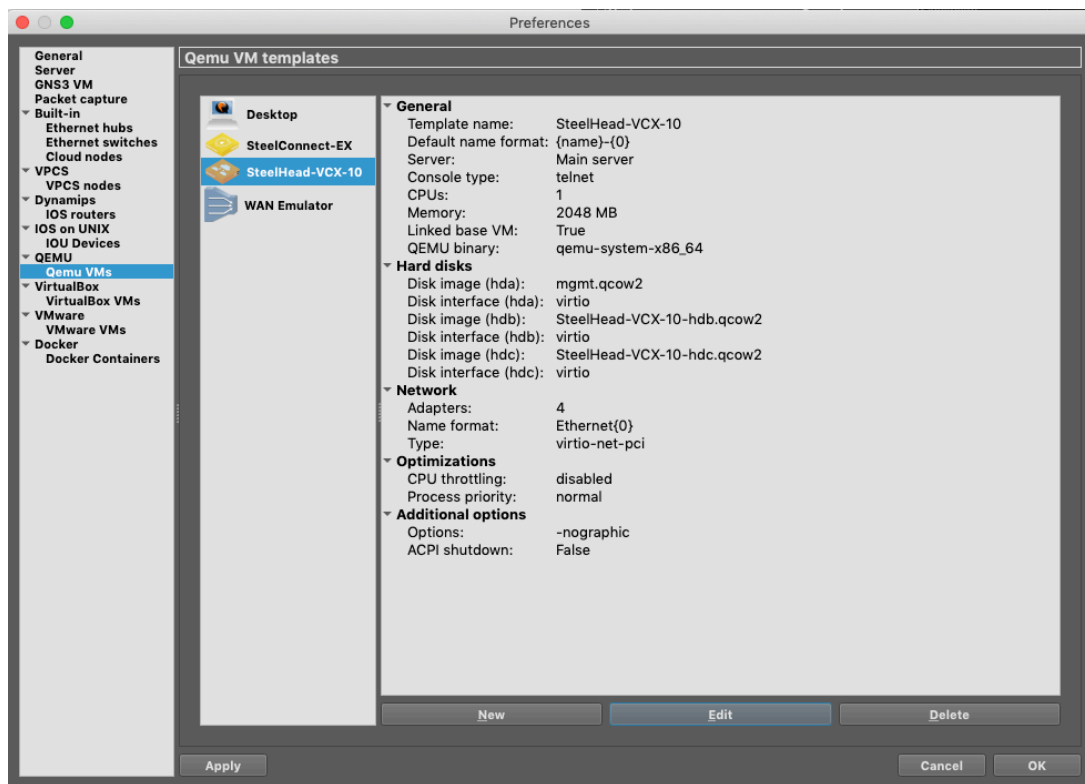


Figure 14 SteelHead-V settings

## First boot of SteelHead-V in GNS3

The first time we boot the SteelHead appliance on GNS3, the system will need to be installed on the additional disks created during the import phase.

This configuration will take 5 to 10 minutes.

Go back to the SteelHead image settings and under the “*Advanced Settings*” tab, uncheck the “*Use as a linked base VM*”

**Important:** This is only for the first boot, once it is completed, check it back.

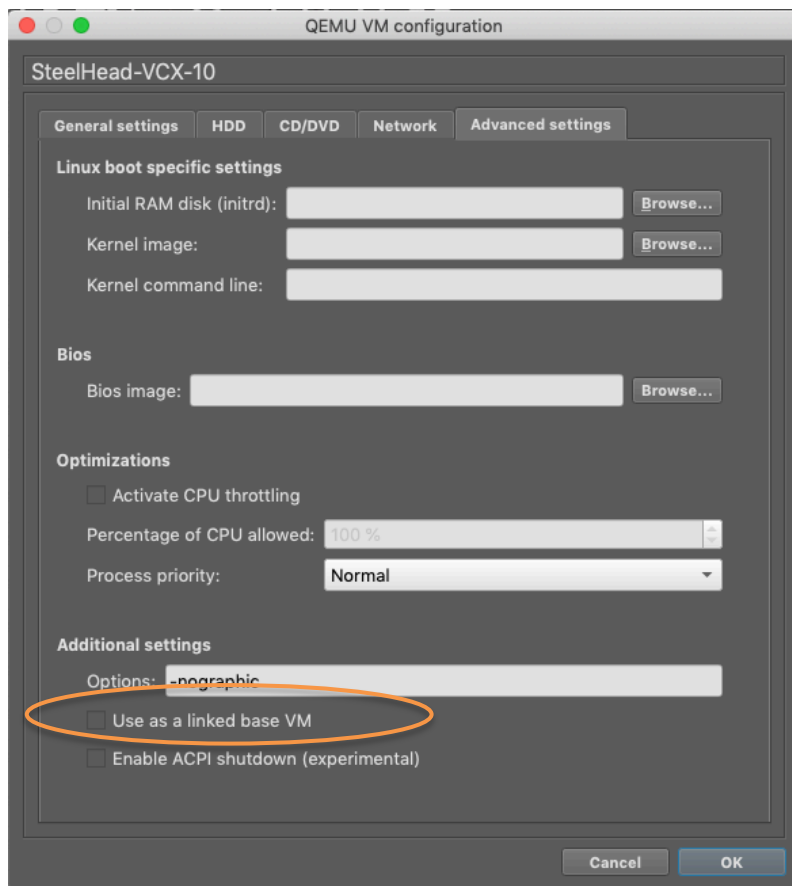


Figure 15 Install

Create a new GNS3 project and deploy the SteelHead image.

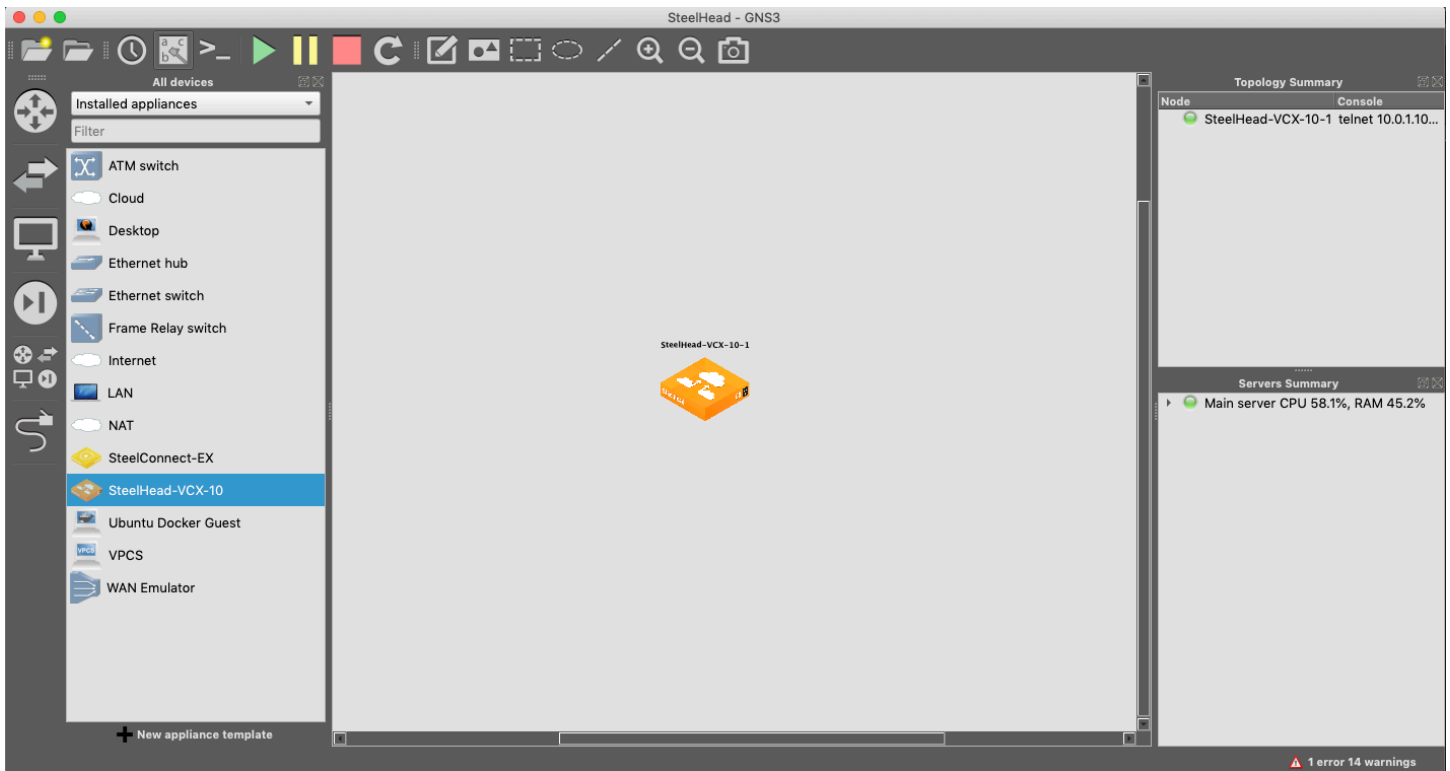


Figure 16 SteelHead in GNS3

Start the node and open a console. The installation will take some time, wait until the login prompt shows up.

```

ctory
    Is the server running locally and accepting
connections on Unix domain socket "/tmp/.s.PGSQL.5432"?
Shutting down system logger: [ OK ]
Starting system logger: [ OK ]
[Jan 1 00:00:00 5895 -1 /db/postgres INFO] {- -} Database unavailable : could not connect to server: No such file or directory
    Is the server running locally and accepting
connections on Unix domain socket "/tmp/.s.PGSQL.5432"?
Shutting down system logger: [ OK ]
Starting system logger: [ OK ]
Shutting down system logger: [ OK ]
Starting system logger: [ OK ]
chown: changing ownership of `/proxy': Read-only file system
chmod: changing permissions of `/proxy': Read-only file system
Executing rsisinit: Starting pm: [ OK ]
Starting net-linkreset.shStarting mcelog daemon
Starting softwatch:
Starting softwatch:

```

Riverbed SteelHead  
amnesiac login:

Don't log into the appliance. Stop it then edit the template again to re check *"Use as a linked base VM"*.

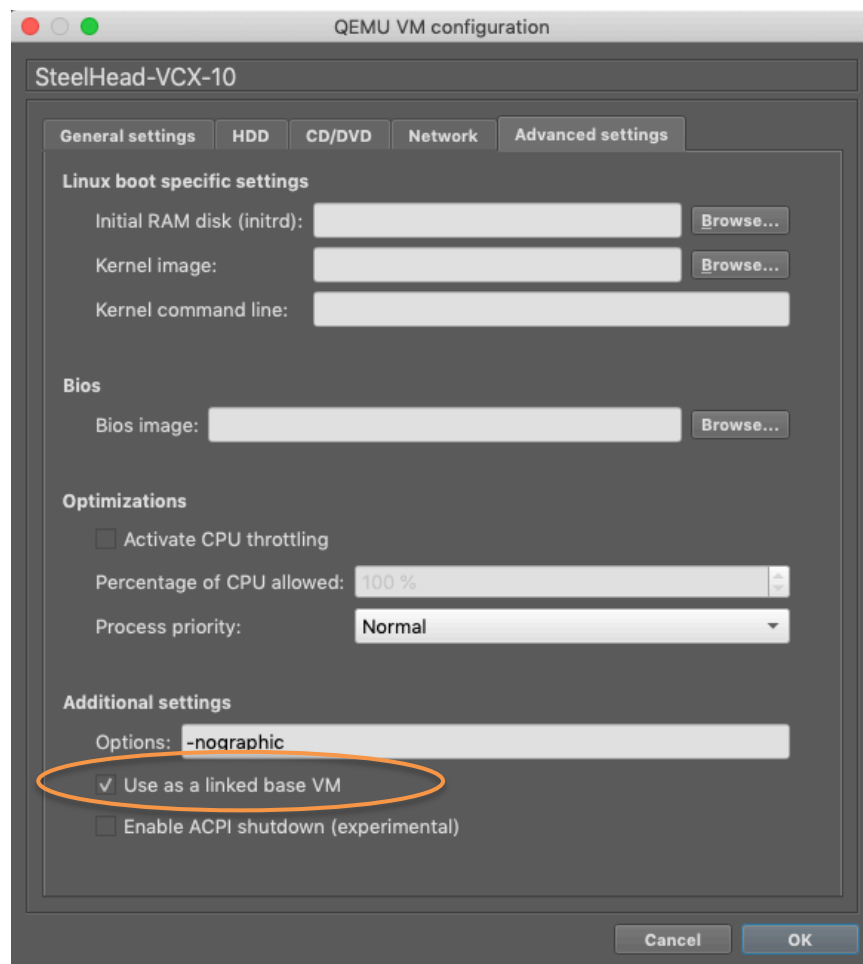


Figure 17 Linked base VM

## Using SteelHead-V in GNS3

You can now deploy the SteelHead appliance in your favorite topology.

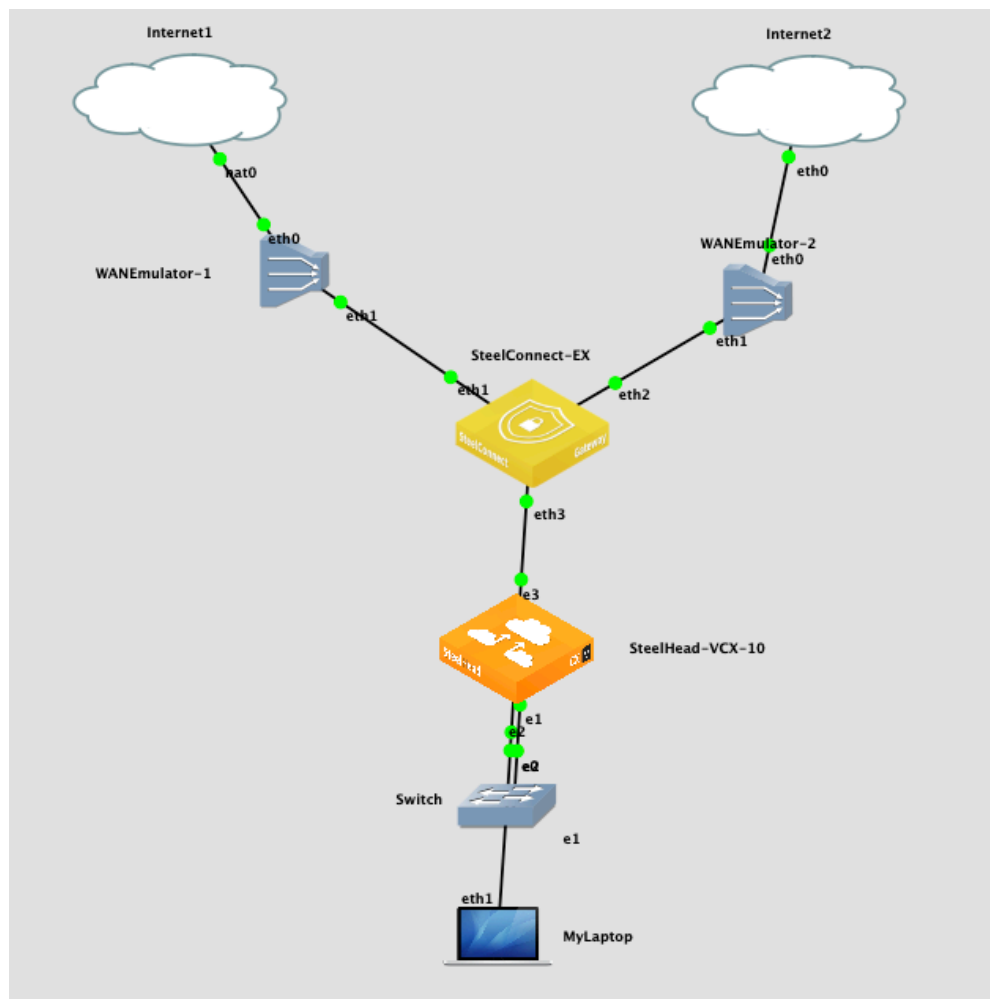


Figure 18 SteelHead-V in GNS3

## Interface mapping

You should get the following interface mapping:

GNS3 image interfaces	SteelHead Interfaces
eth0	AUX
eth1	PRIMARY
eth2	LAN0_0
eth3	WAN0_0

Table 1 SteelHead-V interface mapping in GNS3

## Basic configuration

Here is an example of basic configuration you can configure via CLI:


```
amnesiac # conf t
amnesiac (config) # hostname steelHead-v-01
steelHead-v-01 (config) # no interface primary dhcp
steelHead-v-01 (config) # int primary ip address 10.0.251.252 255.255.255.0
steelHead-v-01 (config) # ip default-gateway 10.0.251.254
steelHead-v-01 (config) # interface inpath0_0 ip address 10.0.251.253 255.255.255.0
steelHead-v-01 (config) # ip in-path-gateway inpath0_0 10.0.251.254
steelHead-v-01 (config) # interface inpath0_0 shutdown
steelHead-v-01 (config) # no interface inpath0_0 shutdown
steelHead-v-01 (config) # in-path enable
steelHead-v-01 (config) # in-path interface inpath0_0 enable
steelHead-v-01 (config) # restart
Terminating optimization service....
Relaunching optimization service.
steelHead-v-01 (config) # ip name-server 1.1.1.1
steelHead-v-01 (config) # exit
steelHead-v-01 # wr mem
steelHead-v-01 #
```

Default credentials: admin/password.

## Add Licenses

Using a browser, connect to the SteelHead management console (using Primary IP address)

Riverbed SteelHead

  
riverbed  
SteelHead™

Sign in to steelHead-v-01

Sign In

Figure 19 Management interface

Click Customer key and follow the instructions you received by email with the license.

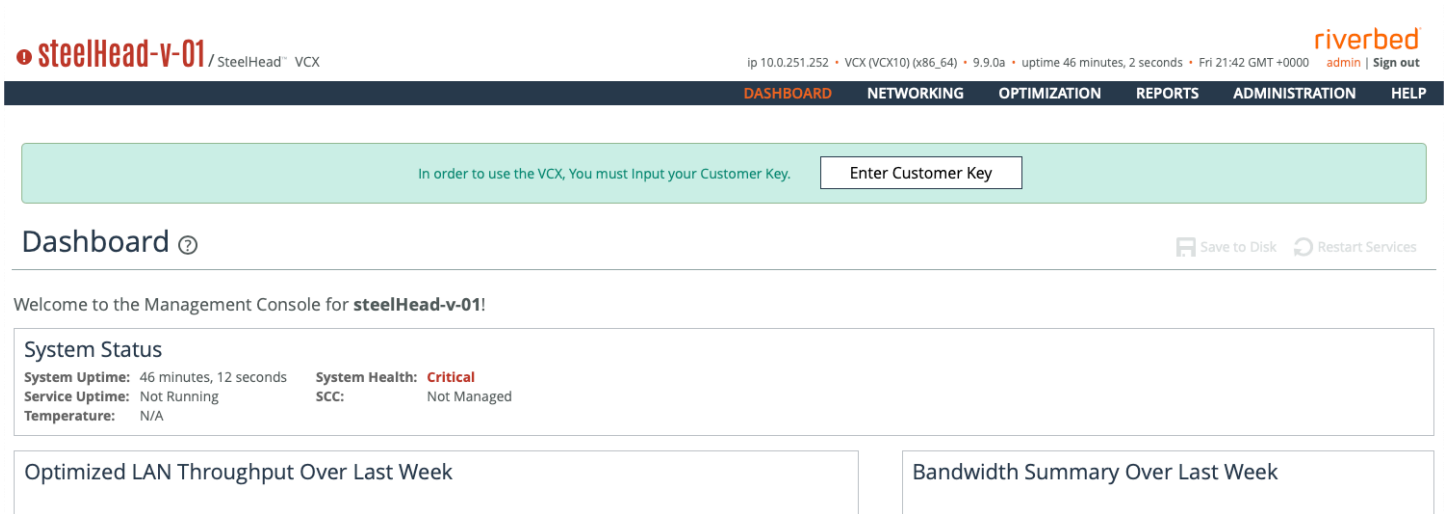


Figure 19 SteelHead-V web interface



# Conclusion

You have successfully deployed a SteelHead-V appliance on GNS3. You can now test the power of Application Acceleration. Watch this space, there are more Riverbed Solution Guides for GNS3 to come....

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## About Riverbed

Riverbed®, The Digital Performance Company™, enables organizations to maximize digital performance across every aspect of their business, allowing customers to rethink possible. Riverbed's unified and integrated Digital Performance Platform™ brings together a powerful combination of Digital Experience, Cloud Networking and Cloud Edge solutions that provides a modern IT architecture for the digital enterprise, delivering new levels of operational agility and dramatically accelerating business performance and outcomes. At more than \$1 billion in annual revenue, Riverbed's 30,000+ customers include 98% of the *Fortune* 100 and 100% of the *Forbes* Global 100. Learn more at [riverbed.com](http://riverbed.com).

The Riverbed logo, consisting of the word "riverbed" in a lowercase, orange, sans-serif font.

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