

Installing ROCK as VM on Synology VMM

Summary

Installing [RoOn Optimized Core Kit](#) (ROCK) as a Virtual Machine (VM) is a work around for known issues with Roon running as a Synology Package (SPK) or as a Docker Container. Both of these methods have issues on Synology devices running Virtual Machine Manager (VMM) due to a [known problem with the Virtual Network Switch](#) (Open vSwitch) preventing Network Discovery of any Roon compatible devices.

There is a workaround to use the installer for a low powered linux Virtual Machine in VMM. The only downside is that you must allocate a full CPU core and dedicated RAM to the VM (as opposed to CPU/RAM sharing via Docker/SPK).

This guide will take you through the necessary steps to do this.

Installation Notes

1. You will need temporary access to a physical USB keyboard that you can connect to your Synology NAS during the installation process.
2. I'm assuming you're going to use a Windows machine to do the install and configuration from.

Create a ROCK installer Image in VMM

Based on instructions here; https://kb.roonlabs.com/ROCK_Install_Guide

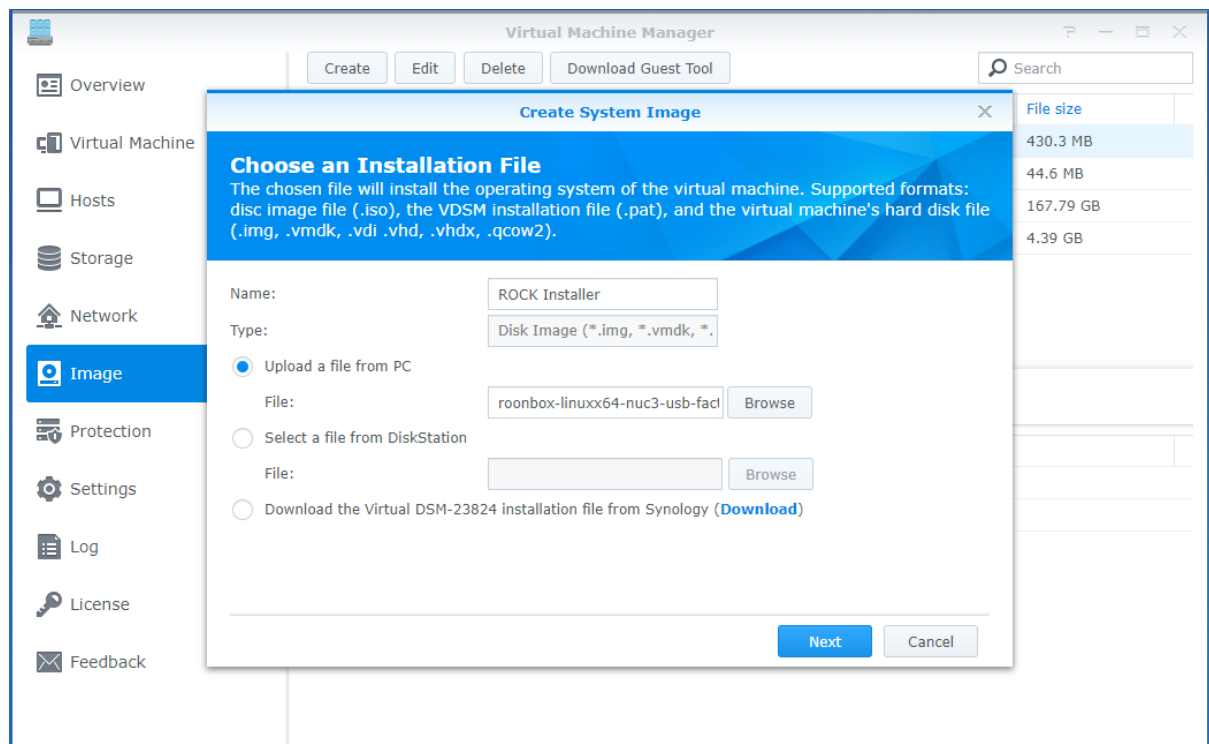
First we need to download the latest ROCK installer for Linux

<http://download.roonlabs.com/builds/roonbox-linuxx64-nuc3-usb-factoryreset.img.gz>

We're going to extract this tarball to get the image inside. I used 7-Zip to open the archive and copy out the .img file inside;

roonbox-linuxx64-nuc3-usb-factoryreset-100000159.img

Next we'll use VMM to add that .img file as an Image as below;



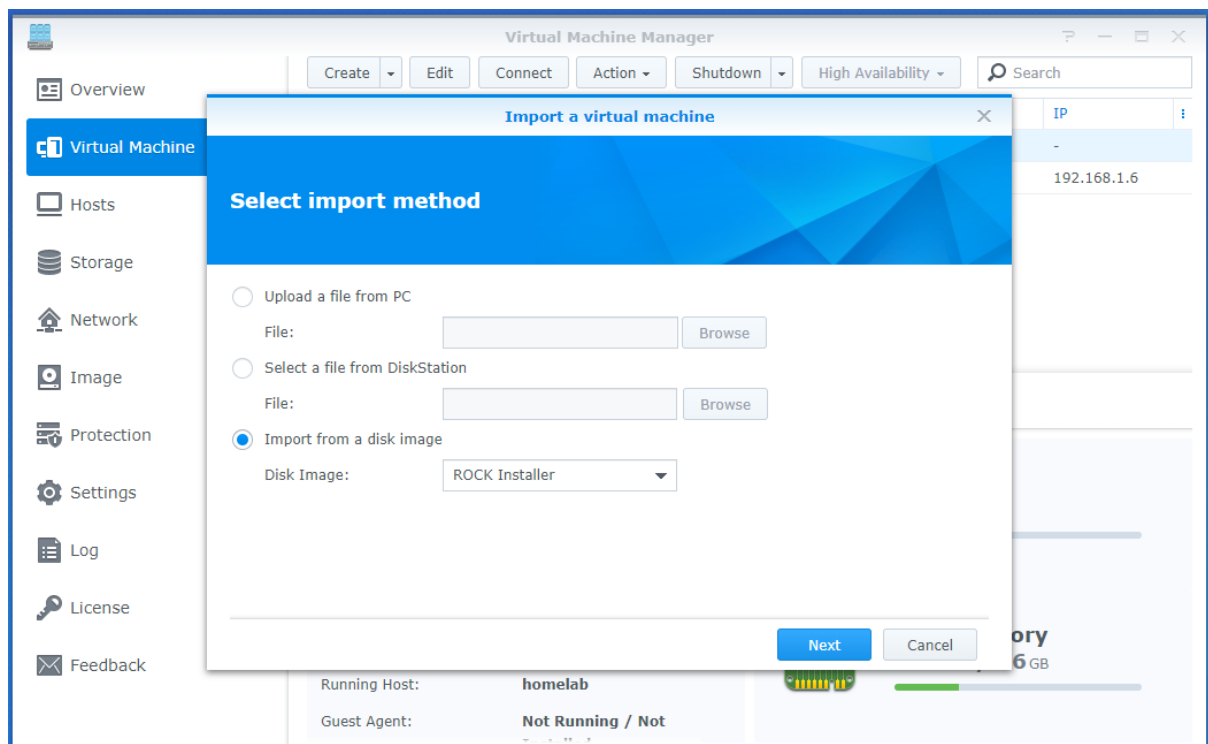
Create a ROCK VM

IMPORTANT: Plug your USB keyboard into your NAS now.

Next we need to set up the VM.

Configure General Specifications

Use the drop down arrow beside Create to choose Import and select to import from the disk image that we just created.



The installer guide says you need 4GB and I've started out with one dedicated vCPU (these can be changed later for your performance requirements)

Name:	ROCK VM	
CPU(s):	1	
Memory:	4	GB
Video Card:	vmvga	
Description:	(optional)	

Storage

We need to add a second Virtual Disk. This is where ROCK will be installed. Install guide recommends 64Gb so that's what I went with. Thankfully VMM is smart enough that it doesn't allocate the entire 64Gb so it'll only use what it needs. I'm assuming you won't be storing music files or backups inside the VM but pointing to a network share.

ISO file for bootup:	Unmounted		Browse
Additional ISO file:	Unmounted		Browse
Virtual Disk:	10	GB	⚙
Virtual Disk:	64	GB	⚙ - +

Configure Network

Leave this as the default VM network

Other Settings

This is where we need to attach our USB keyboard to the VM temporarily. We select USB 2.0 as the Virtual USB Controller, and hopefully by now you should be able to select your keyboard as the USB Device.

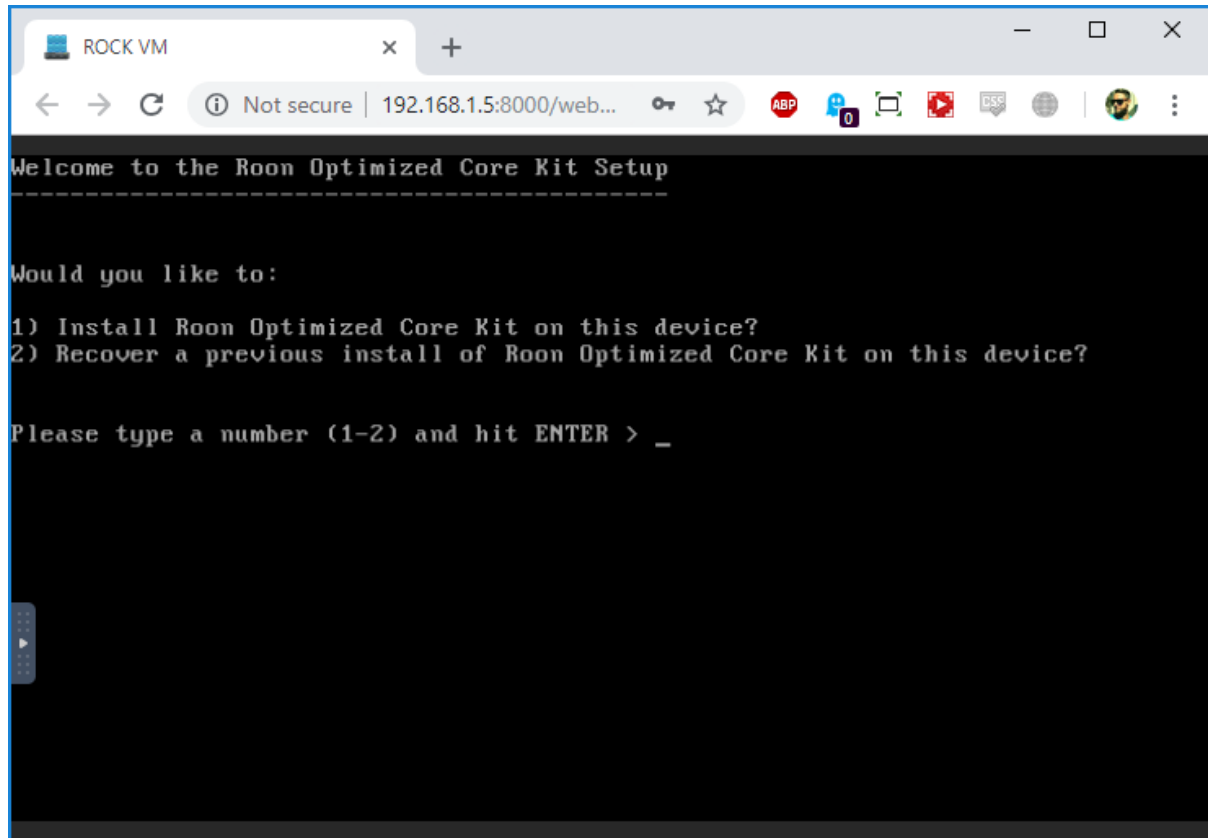
Autostart:	No	ⓘ
BIOS:	Legacy BIOS (Recommend	
Keyboard Layout:	Default	
Virtual USB Controller:	USB 2.0	ⓘ
USB device:	tor, Inc. USB-HID Keyboard	- +

Optionally you might like to set Autostart to Yes so that if your NAS is restarted the ROCK VM is automatically restarted too.

Apply the permissions of your choice on the final step and then start the VM up.

Installing ROCK on the VM

When you start the VM up and Connect to it through VMM you'll be prompted with the installation instructions.



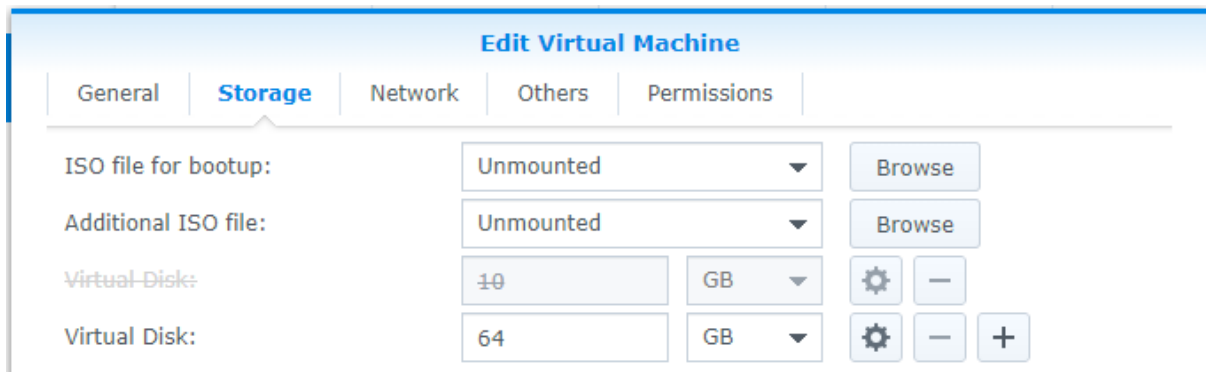
Now we can use our NAS connected keyboard to choose option 1.

The next screen will prompt to choose our 64Gb drive that we set up (option 1)

Then we'll have to confirm our choice (Y then enter), and the installation will occur.

You can remove the USB keyboard now - we don't need it anymore.

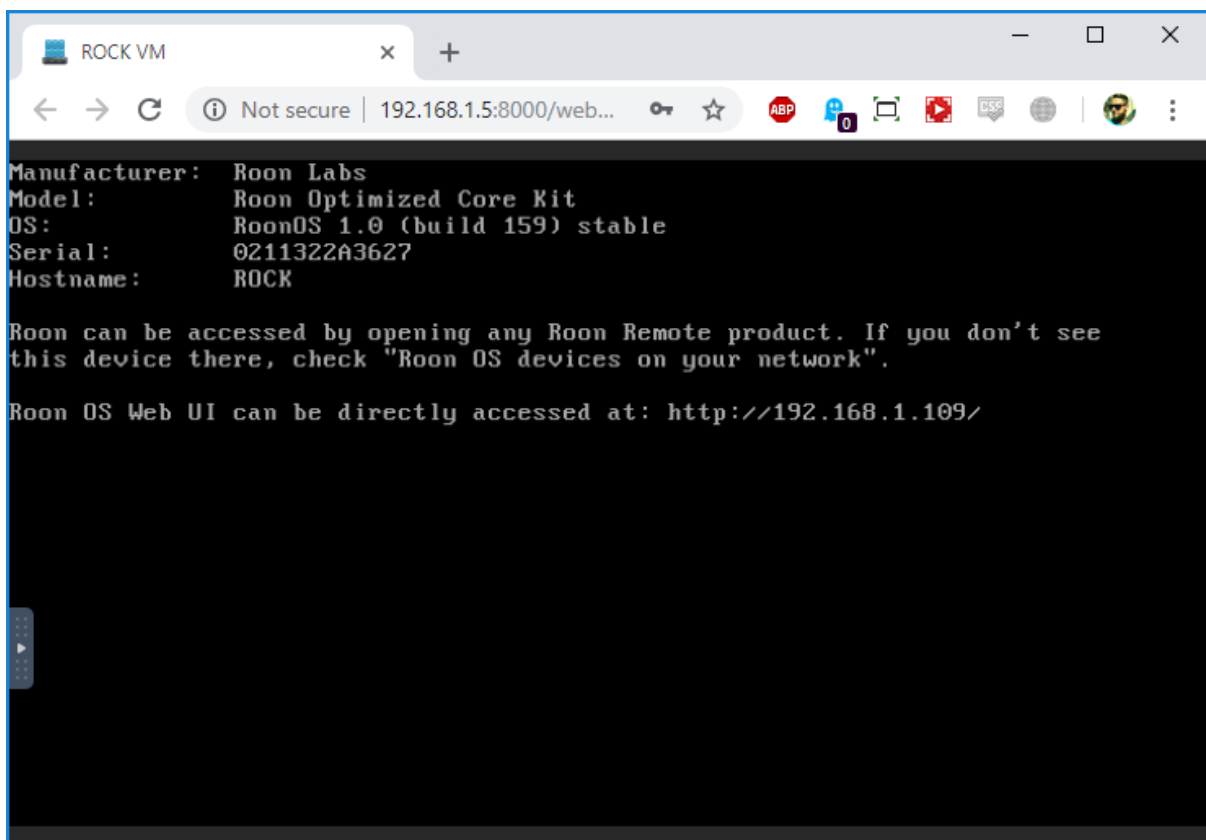
When it has completed we need to use the Shutdown menu in VMM to select Force Shutdown for our VM before we restart it. This is so we can disconnect the original 10Gb installation storage device (or we'll just end up launching the installation again). Edit the VM, go to the Storage tab and hit the minus beside the 10Gb storage device;



Then say OK and confirm the deletion of the disk.

You can also disable the Virtual USB Controller now, we won't need the keyboard again.

Restart the VM and Connect to it again, you should see it startup and end with something like this;



We can now visit the IP address listed to manage our ROCK instance through a browser.

Roon Labs Roon Optimized Core

Not secure | 192.168.1.109

roon

Roon Optimized Core Kit

System Status

Serial #0211322A3627

Operating System

OK

Version 1.0 (build 159) stable
Running 3 minutes, 4 seconds.

Reinstall

Roon Server Software

Missing Codecs

?

Roon Database & Settings

OK

100% of 59 GB available.

Reset

Networking

Ethernet

IP Address Setup

DHCP Static IP

IP Address

192.168.1.109

Netmask

255.255.255.0

Gateway

192.168.1.1

DNS Server

192.168.1.1

Save

You can set a Static IP manually here, or I just used my Router to assign a static IP for the device instead. Otherwise any time you restart your ROCK VM (or your NAS restarts) the IP address will change, you'll need to connect to your VM again to see what it's been changed to.

Install missing Codecs

One last thing.

You probably noticed this;

Roon Server Software

Missing Codecs

?

Which has a link to tell us that ROCK doesn't come with any codecs. Normally they'd come installed with a full Linux install. Whoops.

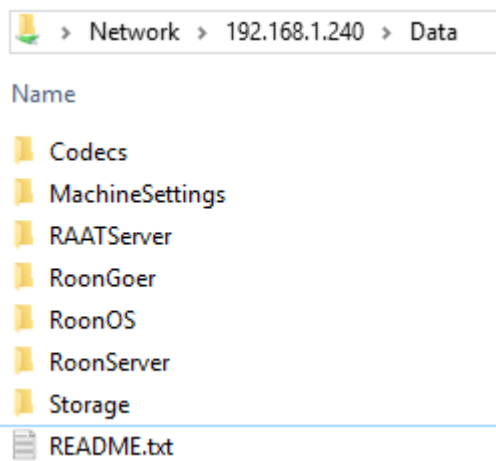
We're just following the instructions here;

https://kb.roonlabs.com/Roon_OS_Missing_Codecs

Our VM has created a network share that we can access.

Using your folder explorer it will be;

\\<your ROCK VM IP>\data\



In this case we just grab the .tar.xz from

<https://johnvansickle.com/ffmpeg/builds/ffmpeg-git-64bit-static.tar.xz>

and open the file as an archive with 7-Zip, then open the .tar archive that was inside and grab the single ffmpeg file and drop it in the Codecs folder of your VM.

Restart the VM and you should see;

Roon Server Software

OK

Restart

Version 1.5 (build 354) stable

Running 2 minutes, 34 seconds.

Using your ROCK instance

To use this ROCK server we need to use another desktop/mobile instance of Roon to manage it. When you start up Roon you'll be able to select this ROCK instance as your core.

Choose your Roon Core

The Core is the brain of your Roon system. It manages your audio devices, music library, and any Roon Remotes on your network.



Roon Optimized Core Kit

Firmware 1.0 (build 159) stable/192.168.1.240, Version 1.5 (build 354) stable

● Update required

Connect

We can then force the ROCK to update to the latest version

Software Update Needed

Roon is trying to connect, but it looks like one or more devices on your network need a software update.



Remote Core (Roon Optimized Core Kit) - 1.5 (build 354) stable

1.6 (build 390) stable is ready to be downloaded.

Download and Install



After it updates and you Relaunch it you'll be able to connect to your shiny new updated ROCK instance!