

Pro Rackmount Solution for the Mac Pro

Installing ESXi 6.0 on the Mac Pro

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Introduction

This document describes how to install ESXi 6.0, the latest version of VMware's vSphere hypervisor, to run on the MacPro 6,1 (the "Late 2013" cylinder Mac Pro). This Mac Pro is the only Apple computer officially supported by ESXi 6.0. There are several things to note before beginning:

1. **A My VMware (https://www.vmware.com/my_vmware/overview.html) account is required to access software tools and images.** This is true regardless of whether you download a trial version of the software, or purchase the full license.
2. VMware primarily uses IT terminology in its documentation, so understanding what is being referred to (e.g. "vSphere Storage Appliance") may initially require additional research.
3. This document only deals with the installation of the vSphere ESXi Hypervisor and Client. For information on the steps to configure the virtual machines, go to www.vmware.com, search YouTube for instructional videos, or contact a VMware technical representative.
4. VMware has undergone several rebranding and renaming campaigns, so be sure to pay close attention and verify the installation and configuration procedures you find on the web apply to ESXi 6.0 before attempting to perform them; procedures for older versions likely will not work. Command line names have changed from time to time. Also, the links in this document may change - and probably will, given VMware's history.
5. Many devices are not officially supported under ESXi; this is true for both Mac and Windows machines. For example, the HP Z820 had no Ethernet driver support in ESXi 5.5, and in particular, most external SATA devices are not supported in ESXi 6.0.
6. Many procedures and scripts for ESXi found on the web don't work with the Mac Pro. In particular, one AHCI setup procedure from www.v-front.de (one of the best resources for ESXi modification) does not work on the Mac family.

Concepts

Based on Linux, ESXi is a "Hypervisor", which is essentially an infrastructure to hold virtual machines (VMs) for execution. Its installation requires the target machine (the MacPro6,1), an Ethernet network (for downloading files and connecting between target and client machines), and a client machine (the client is a Windows PC in these descriptions). Customization works better if the client can support scp (Secure Copy) and ssh (Secure Shell).

ESXi drivers are packaged with a proprietary version of tar called vmtar, which is only found on a running installation of ESXi. Drivers are located in the root of the install media, or in /bootbank on the running system, from which they are copied to places in the system during boot. vmtar can extract or compress files of regular tar types. The tar archive is then extracted or compressed to the file structure.

Installation Steps

- 1) Download the ISO image

- 2) Burn the ISO image to disc, or copy it to a USB thumb drive
- 3) Update the target machine to OS X 10.10 or later if necessary
- 4) Install the target machine
- 5) Configure the target machine (Mac Pro)
- 6) Connect from the client machine
- 7) Complete installation

1. **Download the ISO image**

After logging into your My VMware account, download the [VMware ESXi ISO 6.0.0](https://my.vmware.com/web/vmware/details?downloadGroup=ESXI600&productId=491&rPid=8035) image from <https://my.vmware.com/web/vmware/details?downloadGroup=ESXI600&productId=491&rPid=8035>.

If you wish to add drivers to the ISO image, such as those for unsupported devices, you can do so now with the [ESXi-Customizer-PS script](https://www.v-front.de/p/esxi-customizer-ps.html), available from <https://www.v-front.de/p/esxi-customizer-ps.html>. Note that this script only runs under Windows.

2. **Burn the ISO image to disc, or copy it to a USB thumb drive**

Burn the ISO image to CD or DVD, or use the [Windows USB/DVD Download Tool](https://www.microsoft.com/en-us/download/windows-usb-dvd-download-tool) (<https://www.microsoft.com/en-us/download/windows-usb-dvd-download-tool>) to copy the image and create a bootable USB thumb drive. I used Disk Utility on a Mac and burned the .iso image to a disk. (Alternately, OS X El Capitan users may choose to ctrl-click or right-click the ISO file and select the Burn to Disc option.)

3. **Update the target machine to OS X 10.10 or later, if necessary**

If it is running an earlier version, update the Mac Pro's OS to OS X 10.10 (Yosemite) or later to ensure the computer's Boot ROM is up to date. Otherwise, ESXi cannot be installed.

4. **Install the target machine**

Because it is the simplest, safest, and easiest method, I installed ESXi on a second USB thumb drive (4GB minimum capacity, USB 3.0 recommended). Although installing ESXi on the Mac Pro's internal drive is possible, you may have to modify the ISO file to enable the installation (see For Further Reading at the end of this document), and, doing so will overwrite the drive (destroy all of its partitions)! You may install virtual machines on the Mac Pro's internal drive after ESXi is running, though.

Using the CD, DVD, or bootable USB thumb drive created in step 2, option-boot the machine into the boot screen. Note rEFIt is incompatible with ESXi, so don't try to boot through EFI.

Select the "Disk to Install" (second USB thumb drive), and then complete installation process. After the installation is complete, restart the target machine while holding down the option key, select the EFI Boot icon, and then start using ESXi 6.0.

5. **Configure the target machine (Mac Pro)**

Typically the onboard Ethernet and any Thunderbolt-attached network adapter like Sonnet's [Twin 10G](https://www.sonnettech.com/product/twin10g.html) (<https://www.sonnettech.com/product/twin10g.html>) are not running correctly at this

stage, and must be configured. Press the F2 key, select Configure Management Network, configure the desired adapter or adapters, and then press Return. You may need to select Restart Management Network for the system to properly obtain a new DHCP address, even though it reports it has one. Write down the IP address for use in the next step.

At this point it is a good idea to enable ssh if any customization or other driver installations are to be done. This is done in the diagnostics section.

6. Connect from the client machine

Now we are ready to connect to the Mac Pro via a remote client. As usual, the first step is to open a Command Prompt window from the client machine and ping the target machine to verify the link is up. With the link verified, open a web browser to the address of the target machine. A message will appear warning about an improper or missing website security certificate; click Continue. The VMware ESXi Welcome screen appears:

Download and install the vSphere Client, and then download and install the vSphere Remote Command Line Installer.

7. Complete installation

Reboot everything, connect the client to the target machine, and you can now start creating virtual machines.

References and Links

<https://www.vmware.com>

<https://www.v-front.de> – Andreas Peetz site, with great info on driver support for ESXi

<https://www.virtuallyghetto.com> – William Lam's great site on general ESXi issues.

<https://www.virtuallyghetto.com/2015/07/heads-up-esxi-5-x-6-0-unable-to-detect-newer-apple-mac-pro-61-local-ssd-device.html> - Article describing the issue of the Mac Pro's onboard SSD not being recognized by ESXi, and a possible workaround

Version 6.0 files:

[//my.vmware.com/web/vmware/details?downloadGroup=ESXI600&productId=491&rPIId=8035](https://my.vmware.com/web/vmware/details?downloadGroup=ESXI600&productId=491&rPIId=8035)