

How to install PV on a Mac Laptop

This solution describes:

1. How to install Paravision on a virtual Linux partition on a Mac computer
2. How to set up the Mac as a client computer for obtaining a valid PV license.

Summary of main steps:

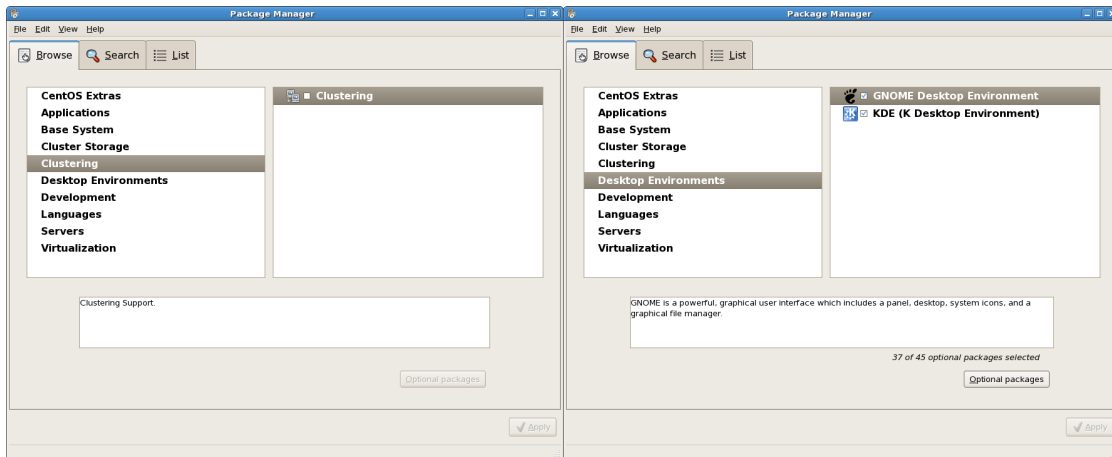
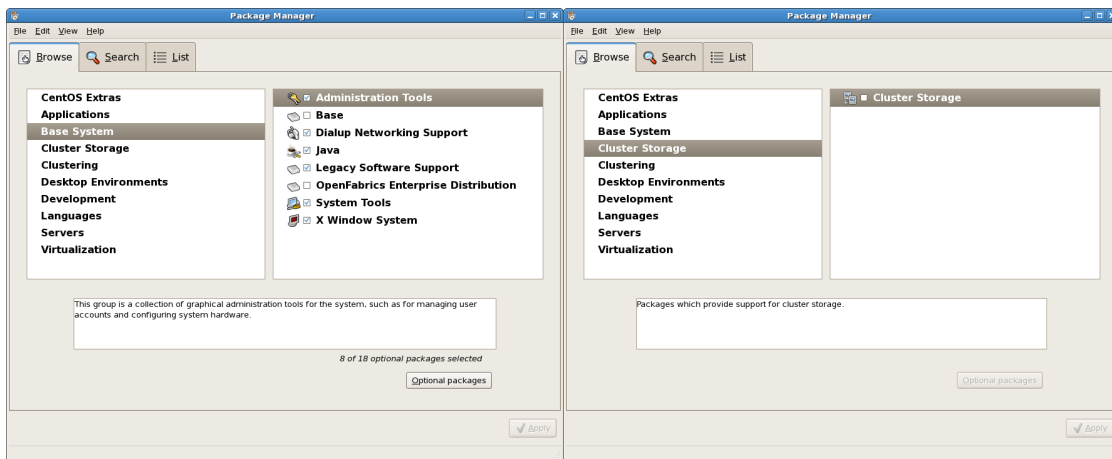
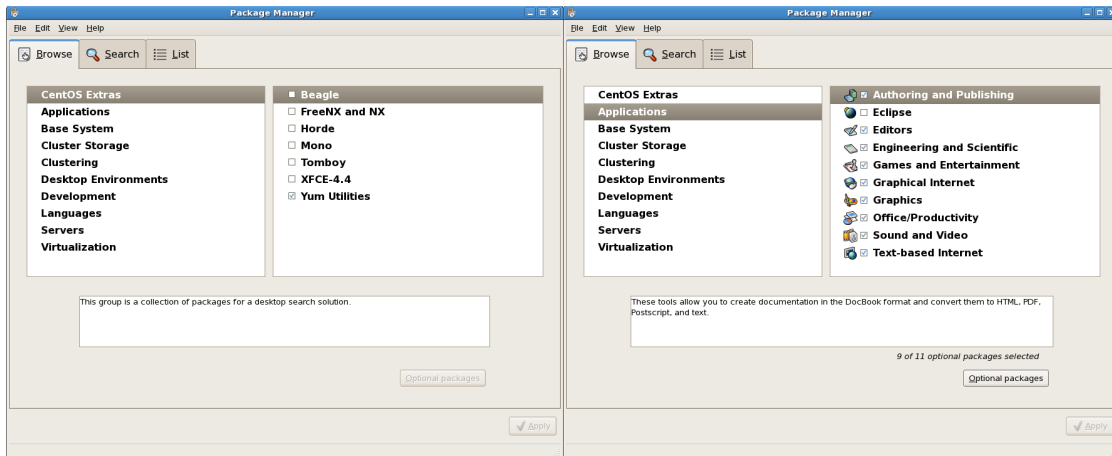
1. Installation of Parallels Desktop software (to run virtual Linux on a Mac)
2. Installation of CentOS 5.9 software (to install PV5.9)
3. Installation of PV5.1 software on the Linux partition without the license manager
4. Setting up the network configuration on the Linux partition (to be able to connect to the license server)
5. Setting up the Mac as a client for PV license retrieval (to obtain a PV license)
6. Setting up PV5.1 for method development and data analysis

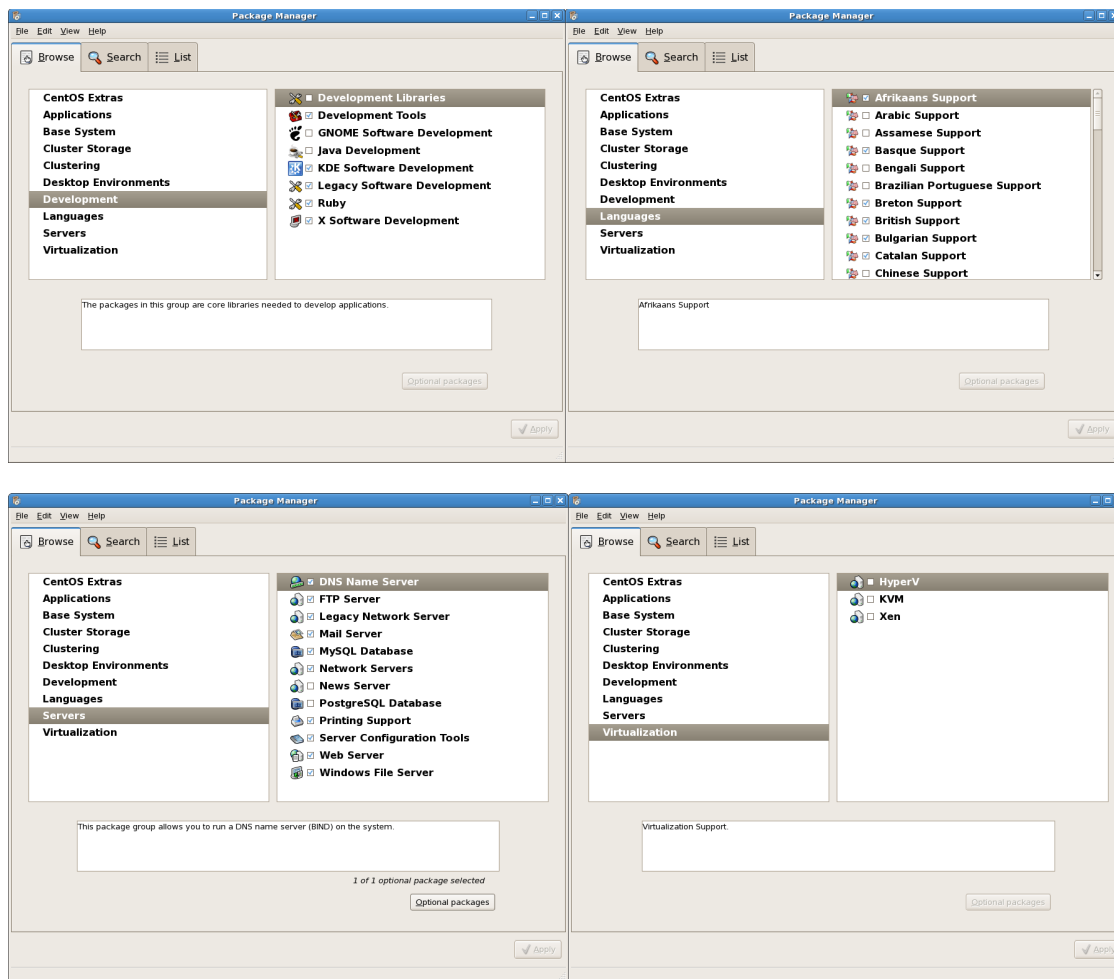
Installation of Parallels Desktop software

1. This is commercial software, one of a few that allows you to install a virtual machine. For a list of supported guest operating systems, see <http://www.parallels.com/products/desktop/>
2. For pricing, see <https://buy.parallels.com/329/purl-us-pd8f>
3. For general details, and to download the software, see <http://www.parallels.com/products/desktop/>
4. For questions regarding installation, see <http://www.parallels.com/support/desktop-virtualization/desktop/>

Installation of CentOS 5.9 software

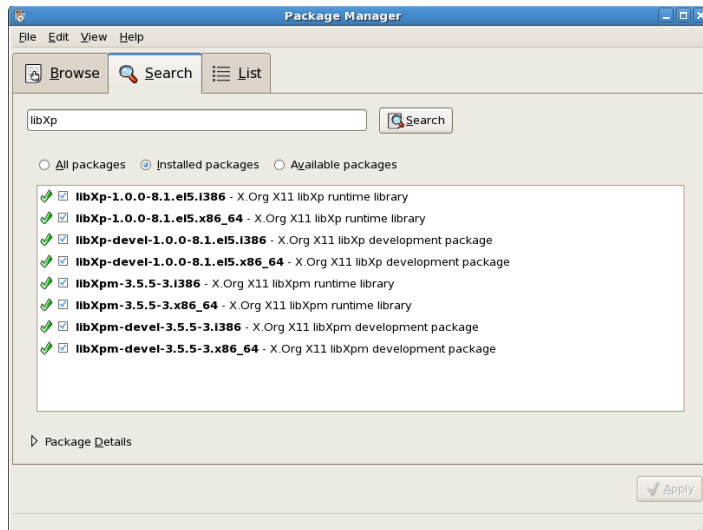
1. Install *CentOS-5.9-x86_64-netinstall.iso*.
Note: This is not the actual software, it is the installer!
Note: You do not have to burn a bootable CD like suggested in the CentOS installation manual. So, skip point 2.
2. Run the installer and proceed with installation as described in the manual CentOS 5.9 Netinstall – Network installation.
3. When asked to select a CentOS installation directory (on the site mirror.centos.org), choose http://mirror.centos.org/centos-5/5.9/os/x86_64/ as the path in the manual is wrong. This is the path to the actual software.
Note: make sure that if you are installing the x86_64 you have installed the x86_64 netinstall version and same for i386.
4. You are now ready to proceed to CentOS installation. Follow instructions in the manual.
Note: under point 17, I have selected both, the Gnome and KDE Desktop environment.
5. After the installation is complete, make sure to install all the necessary packages. See screenshots below for details on which packages were installed on the Bruker-configured computer.





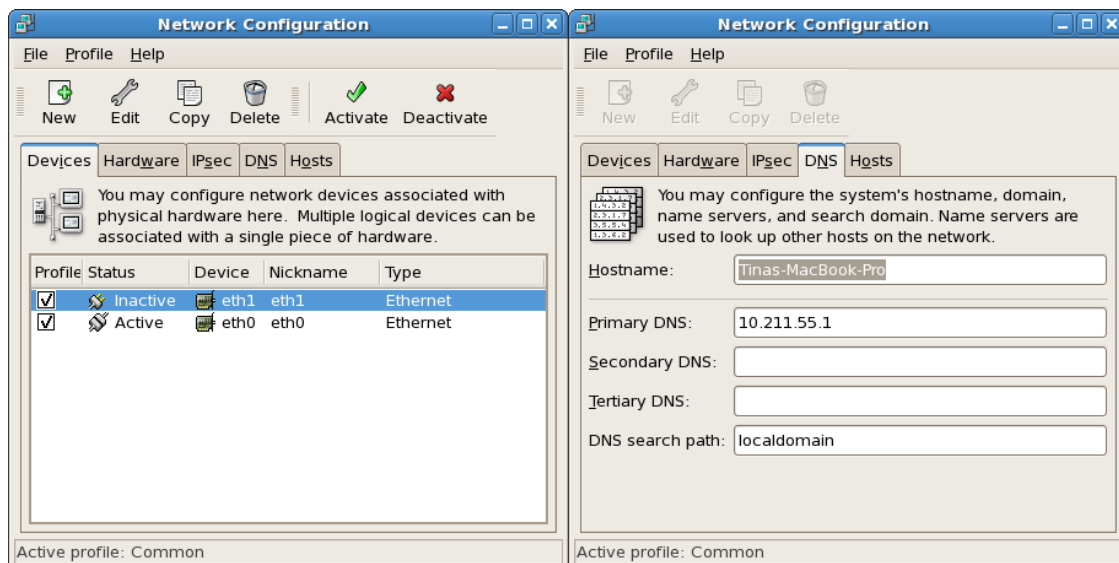
Installation of PV5.1 software on the Linux partition

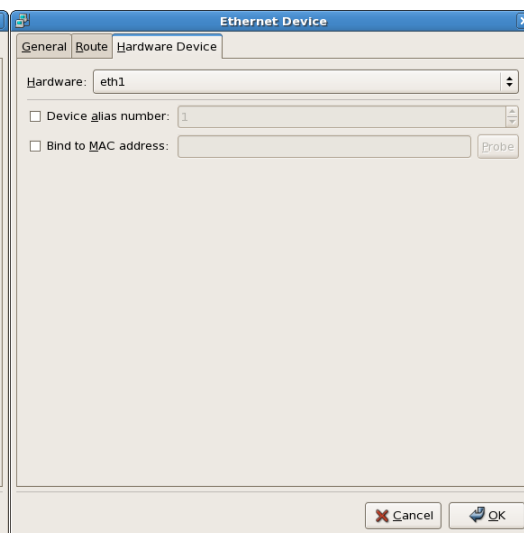
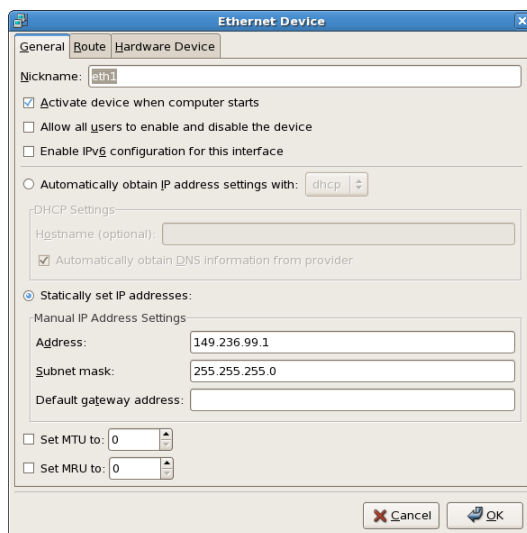
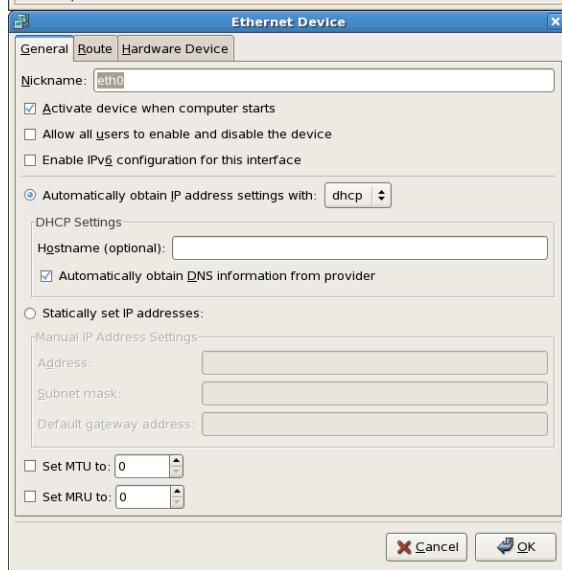
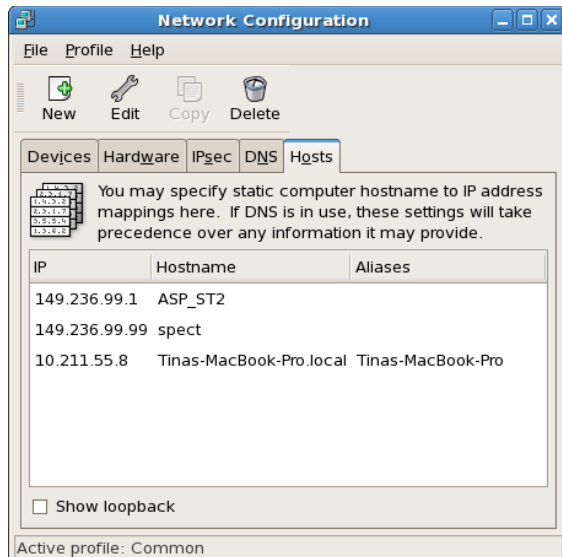
1. Install DVD with PV software into DVD drive (note, the software has to be installed locally, not remotely).
2. Follow instructions in the PV installation manual, but note the following:
 - a. In panel 2, choose *customized* installation and then deselect *FLEXIm License Manager* if you are setting up a PV client
 - b. In panel 3, choose *I want to select a ParaVision configuration to import* (see chapter on Setting up PV5.1 for method development and data analysis below for description of how to create and import an existing PV configuration); select the desired configuration
 - c. (no panel 4 and 5 for a client computer)
 - d. In panel 6, choose an existing account for the NMR Super User. Since I am the only one using my laptop, I choose my user (tpavlin) to be also the NMR Super User.
 - e. In panel 7, choose NMR Administrator Password
 - f. In panel 8, wait patiently
3. When trying to run PV for the first time, I received an error message for a missing library: *libXp.so.6* (not sure why)
 - a. To solve this, I had to install (through Centos add/remove software manager) the following packages (in particular, it was necessary to install *libXp-1.0.0-8.1.el5.i386.rpm*)



Setting up the network configuration on the Linux partition

1. Connect the Mac to the UiB network (either directly or through VPN)
2. Open a shell window and type:
 - a. `/sbin/ifconfig`
This will show the IP address of the computer that is needed to properly set up the network.
 - b. `Hostname -f`
This will give the full hostname name which you need in order to properly set up the network





Setting up the Mac as a client for PV license retrieval

Goal: To set up the personal computer (Powerbook in my case) to look for a valid license on a license server which is on to the University network. This means that the personal computer has to

be set up as CLIENT and it assumes that the user already set up another computer as a license SERVER. Whenever you log into the client computer, a started ParaVision looks for a valid license on the server.

On the SERVER computer do as follows:

1. Open a shell window and type *hostname -f*
This will give the full hostname of the server computer (need for step 3 below)

On the CLIENT computer do as follows:

1. Go to *cd /etc/profile.d*
2. Create a file *broker.sh* (*emacs broker.sh*)
3. Into the file body, write
 - a. Export [LM LICENSE FILE=1700@myserver.domainname.no](#)
<servername.domainname> is a placeholder for the full qualified domain name of the computer hosting the licenses, e.g. NC-MED23146@klientdrift.uib.no
4. Give the new file executable permissions
 - a. *chmod a+x /etc/profile.d/broker.sh*

Setting up PV5.1 for method development and data analysis

Goal: To set up datastation configuration, which should allow one to perform method development with the same tools as on the actual spectrometer workstation.

Note: this is not the same as setting up the PV as a Datastation, because in that case one is not able to create "new" scans, only view and analyze the existing scans.

1. Store the spectrometer configuration of the system where you want to run your experiment
 - a. Open a shell window on the spectrometer control workstation
 - b. Change into the ParaVision installation directory:
 - i. *cd /opt/PV5.1/prog/service*
 - c. Create the configuration file
 - i. *./storePvConfigData /opt/PV5.1*
 - ii. The file is saved in folder */opt/PV5.1/prog/extras/ PV5.1-configYYYYMMDD*
2. Transfer the configuration to the computer where you want to do method development
 - a. Store file for instance in the */tmp* folder
 - b. Make sure PV is not running on this computer
3. Unpack the configuration
 - a. Open a shell window and log in as root (*su*)
 - b. Change into the ParaVision installation directory:
 - i. *cd /opt/PV5.1/prog/service*
 - c. Use the copied configuration file to create a new configuration on the data station:
 - i. *./restorePvConfigData /opt/PV5.1/ /tmp/PV5.1-configYYYYMMDD.tar*
4. Start ParaVision
 - a. Perfotm cf in the startup dialog or *topspin* command line.
 - b. Select the "spect" configuration in the opening dialog box.
 - c. Press Edit
 - d. On the subsequent page, select in the Configuration field "Datastation" instead of spectrometer.
 - e. Quickly step through the installation steps to finish the configuration.

